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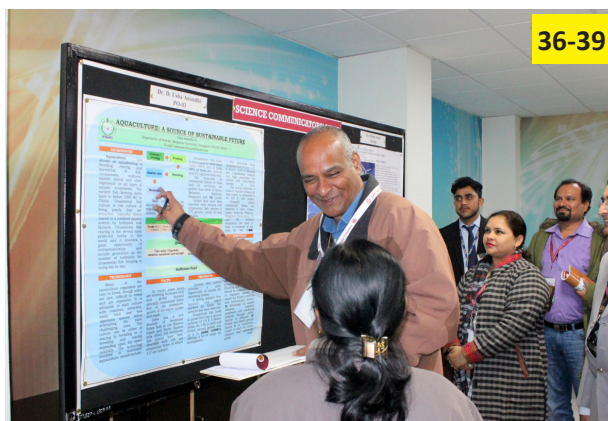
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Discovering innovative approaches in science communication



As a country we have been evolving and trying out new experiments, innovations, and ideas in the field of science and technology communication that are further shaped, adapted and enriched from time to time, be it publication of books and magazines, broadcast of radio and television programmes, delivering lectures and talks or performing folk arts and forms, etc., for science communication among masses in different Indian languages as well. Of late, digital and social media were also involved in big way for science communication to cater to the needs of the emerging society transforming from traditional to digital age. Several ways and means are being used for science and technology communication and popularization, affecting the lives, thinking and attitudes of common man in explicit or implicit manner!

The main aim of such programmes and activities is not only disseminating scientific and technical knowledge but also inculcating and fostering development of scientific temper, and promote understanding amongst them using all possible modes and media. It is not that all the ways, techniques, means and media have been tried out. As a matter of fact, we have touched only a few facets of the diverse area of communication techniques for science education and communication and there is an ocean yet to be discovered, adopted and tested. The scope for new ideas and innovations in the field of science communication is immense similar to that of fundamental research in S&T. All that is needed, is to explore, discover, adapt such new ideas and put them into practice. If we are vigilant enough, even every conference, seminar, symposium or discussion offers number of leads that can be further developed into new areas for implementation!

In 1987, Bharat Jan Vigyan Jatha came up with a new and novel concept and it was realized that where our print, electronic and other media failed to reach, the Vigyan Jatha could. Its impact was enormous and format proved to have huge potential. So, all of us, who are closely associated with science communication, must take the responsibility of exploring newer vistas and develop new formats and modules for science communication. Some time ago an institution - Swadeshi Vigyan Movement gave a new dimension to science communication and set a novel example of swadeshi science. Hoshangabad Vigyan was yet another experiment in the area of informal science education. Kerala Shastra Sahitya Parishad brought revolution to this area. Besides, a number of individuals have originated several new ideas and have succeeded in effectively taking science to the people at large. Similarly, Odisha Bigyan Samiti published a number of popular science books in Oriya language.

Now the question arises is whether should we limit our efforts to the prevailing areas or proceed towards discovering newer techniques and making further innovations for a more effective science communication programme or strategy based on the expectations and aspirations of the country! In fact, both are necessary. On the one hand, we have to focus on the use of our present communication media and techniques making them more effective so that we are able to ensure the maximum utilization of the talent, techniques and resources which are in hands, and also keep on discovering newer ways and means for science communication depending on changing needs and requirements of contemporary society.

Who knows when a bright idea flashes in one's mind! So, let us tune-in and condition ourselves for developing new thinking in science communication. Generally, new ideas come either when there is a requirement, as we say that "necessity is the mother of invention", or something might click all of a sudden in one's mind. Both of these types of ideas have their own importance. Therefore, when any such idea, new dimension for science communication occurs to your mind, you must have a thorough analysis of the idea and in case it seems viable, then discuss it in your peer group(s) to strengthen it further and subsequently put on use. It can also be submitted to IJSC for publication for wider dissemination, criticism, and appreciation. Let's start thinking and joining hands and minds together for newer and better innovative ideas for science communication and popularisation.

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Sports directors' familiarity with risk communication: A study

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The objective of this research was investigating the relationship of sports directors' familiarity with sports rights concepts and risk communication and management behaviors at Kurdistan province. The methodology of this research is descriptive survey. The research statistical society consisted 255 members of all directors at Kurdistan Sport domain. The sampling method was simple random and for determining the sample volume 150 sport directors managers of Kurdistan province, using Morgan table, were selected as the sample. Measuring tool was questionnaires of Thomas Irons about familiarity of managers and directors with sports rights and risk management, its validity was confirmed by 10 experts and its stability was % 85 and % 89, in order. For theories analysis, Pearson's correlation coefficient was used by SPSS software. The finding showed that there is relation between the familiarity of sports directors with sports rights concepts, supervision, medical issues, bystander and population control, transportation, safety and applied equipment to their schedule at Kurdistan province. $P < 0/05$; but employment and upbringing, safety, applied equipment and facilities factors do not affect manager's familiarity with sports rights $P > 0/05$. Finally it can be said that it seems risk management and sports rights require facilities and specific situations that rarely exist in the country's organizations and institutions and while it is not the right condition it is not expected these behaviors would happen in a favorable way. The present research concluded valuable results about investigating the relationships of familiarity of sports directors of Kurdistan province, with sports rights concepts and risk management behaviors.

Keywords: Risk communication, Risk management, Sports injuries, Sports directors

Introduction

Sports is one of the effective educative and moral methods specially for youth; The device that day by day takes more scientific appearance. Politically achievement in sports fields is an instrument for sports development and success in fields. The increasing importance, caused legal scholars tend to establish a particular major in "sports rights title" that like employment, business or agriculture rights pays to the various dimensions of this social relation. Sports rights or sports law is one of law science trends that legally reviews the events at sports.

Generally it could be said that sports events means all crimes and torts, that are done by the athletes, teachers, instructors(coaches), directors, bystanders, constructors and producers of sports equipment and facilities and so on, directly or indirectly. The qualificative and quantitative aforementioned areas obviously reveals this major's importance, and when paying accurate attention to vital and basic position of sport in between the social institutions, the necessity of awareness from the content of this major becomes clearer for the state judicial system, especially those somehow interevent directing in sports affairs (Ebrahim Zadeh 2010). The subject of sports rights is all violation that occur in sports fields and somehow damages other's rights. One of the ways for achieving the sports rights goals is through awareness of sports managers and directors from sports rights, to recognize or distinct damages and encounter these dangers for taking a good and effective decision. So risk management can guide managers to achieve the sports rights goals in a favorable way (Aghayee nia 2010).

Risk management is the process of recognition or distincting the damages that an organization disposes to, and is described as choosing the best techniques to encounter these threats. Risk management program is a systematic environmental review with recognition, of harmful potentials. This comprehensive system is resulted from recognition, evaluation and control and also is created to have a safe environment for working out, for bystanders and participants. The aim of risk management is preserving properties or protecting organizations financial references and attain financial stability by reducing harmful potentials (Iron 2004).

Risk management is an active and explore ori-

ented method that responses "IF"s that consists two parts of reducing and controlling the risk .The aim of risk reduction is minimizing the risk and danger of an unpleasant event ,and the aim of control is gathering information to attain if the applied innovations has reduced and minimized the unpleasant event danger effectively or not (Stless 2006).The aim of risk management is protecting properties or financial reference of the organization and achieving financial stability through reducing damaging potentials (Iron 2004).

Several researches show that deploying risk management consists special importance and necessity. Based on investigations ongoing increase of lawsuits and payed expenses in this field has forced sports directors to perform new policies to reduce ,transfer and eliminate risk .For as much sports director is responsible for the danger due to the risk ,he should be able to recognize predict and control the risk (Iron 2004).

Doosti (2008) declared that %75 of sports complexes directors of Tehran city are unaware of risk management methods and the accidents happen due to the lack of knowledge of directors toward risk management methods and utilizing it .

Rahimi (2002) also showed that the structure of the state football stadiums and related facilities are weak and inappropriate, and inappropriate structure of stadiums is the most important factor causes spectators dissatisfaction.

Forughi pour (2005) in a study investigated the extent of familiarity of sport coaches, teachers and sport directors of Tehran city by sports rights, he found that a little percent (%17) of sport coaches are familiar with sports rights.

Veisi (2010) ,in a study in title of "relationship between the utilization extent of risk management behaviors ,and directing methods between sport presidents and secretaries of South Khorasan province associations" ,concluded that there is no significant relation between various leadership styles and the extent of risk management behaviors and also staff directors has performed risk management behaviors better than line manager. Nefziger (1992) investigated sports rights revolutions, and codified a frame work for local prescriptions in the United States ,Florida. He reminded sport director's responsibilities due to professional athletes and insisted on their responsibilities, his study showed that

the majority of professional gym's directors, related to responsibilities and legal duties, are aware and familiar with, at a high level.

Alin (2003) during his study about the level of awareness and dominate on sports rights at the athlete's society, concluded that being aware of sports rights results in youth active cooperation in sport activities.

Given that there is not a specific study about risk management toward sports and sports rights in the country, necessarily essential studies in this basis should be done, so we follow serving the extent of director's familiarity with sports rights implication and it's relation with risk management behaviors at Kurdistan province.

Hypothesis

Primary hypothesis

There is relation between the amount of sports director's familiarity with sports rights concepts and sports management risk, at Kurdistan province.

Secondary hypothesis

1. There is relation between the extent of directors' familiarity with sports rights implications with applied supervision to their schedules and programs at Kurdistan province.
2. There is relation between the extent of sports directors familiarity from sports rights implications with applied medical issues in their schedule at Kurdistan province.
3. There is relation between sports directors familiarity with sports rights implications with applied facilities to their programs at Kurdistan province.
4. There is relation between the extent of sports directors familiarity with applied facilities to their program at Kurdistan province.
5. There is relation between the extent of sports directors familiarity with sports rights and security and safety of spectators and applied population control in their schedule at Kurdistan province.
6. There is relation between the extant of sport director's familiarity with sports rights implications with applied transportation in their programs at Kurdistan province.

7. There is relation between the extent of sports rights familiarity with sports rights implications with safety and applied equipment in their program at Kurdistan province.
8. There is relation between the extent of sports director's familiarity with sports rights implications, employment and applied upbringing in their programs and schedule at Kurdistan province.

Sports rights

Our objective of sports rights is a collection of provisions that dominate all sports affairs including athletes, technical directors, spectators, sport's staff management, sport physicians and finally sport organization's staffs.

This is a general description of sports rights; this means a set of rules and rights dominating sports. And also it investigates events rights in sports with legal attitude to crimes and tarts that happens by sports proceeding intendants or operatives, that is called sports rights.

But the difference of crimes and torts is that, crimes consists penalties such as imprisonment, fine, whiplash, and even execution and hanging, and torts require compensation and doesn't describe criminal penalties. "Sports rights" is a subject that determines legal responsibilities at sports (Farahani .et).

The importance of sports rights:

Happening events and accidents during sports events, is inevitable. Some of these incidents causes injury of athletes or spectators, or maim or in some cases causes decease. Each event has a reason and aforementioned reason can be the basis for the fault. In most of the cases the reason for happening the incident, is the instructor's and teacher's, or sport director's failure and negligence in their duties that can cause more responsibilities for them from sports rights viewpoint. Sports coaches have the responsibility of educating and training the athletes, that based on their duty they face some kinds of legal responsibilities sports area. Physical education teachers during physical education classes should inspirit students to the sport and in the case injury happen to the student, the teacher can be considered respon-

sible. Sports directors are responsible of stadiums and sport places, and in the case of happening any problem during sports events or accidents in sport places, it can cause responsibilities for them. (Scalf & Robinson ,2002)

General rules of law (rights) and application:

Sports rights is a combination of “low and sport” science that should be studied inseparably. In the other hand however the main addresser of this study is generally sports community, but for understanding legal implications they are needed to be familiar with general rights rules. These information essential not only in this field but also for everyone in his ordinary life because specially from the legislator’s point of view it is assumed that all the people in the society are aware of all rules and do not accept any contrary claims, in the other words ignorance of law is not responsibility’s ablative and no one can, in excuse of lack of information can proof himself (herself) .

Now due to this introduction and that the accident is basically inseparable and unavoidable in sport. The necessity of awaring legal rules for essential decision making, to prevent accidents or probability of flinching responsibilities can be felt more tangible for all sports members. However, in detailing general rules tow points are noticeable, initially the discussion’s title “sports rights” that is not absolute right and secondly the features of original addresser, we mean sports society that is qualified for sport description not legal position. (Farahani 2014).

Legal responsibilities due to sport operation:

According to IPL (Islamic punishment law) approved at 1991(1370), clause 3 matter 59, following action are not considered crime:

- The accidents and occurrences caused by sports actions with the condition that the accident’s cause is not abjuration of that sport rules and provisions, and this provisions are not contrary to “Sharia Standards” (“Legal Standards”) .
- Matter 23s’ approval at 1982 and also matter 55 at 1991 solved many problems and dilemmas of between athletes, coaches and referees.

Although to accomplish this clause and matter, more studies and investigations, and codification and approval of new laws and administrative regulations are needed but currently existing this regulation text in solving problems and events, caused by sports, has been partly effective and has been relatively a troubleshooter for athletes, coaches ,supervisors and referees. With appointed conditions in the aforementioned legislation, due to sport activities, are not considered crime.

- In this chapter the basis of discussion are aforementioned events that it’s cause is the athlete, it’s location are sports places, and the time is during the sport activity. (Farahani 2014).

Sport supervisors and competition holder’s legal responsibilities:

In sports due to directors’ authorities they have responsibilities, and the director’s negligence in his duties and his leadership and control related to his subset cooperation, in the case it results to an accident, will result in criminal aftereffects for the related director or manager.

In sports rights we investigate if the responsibilities such as; supervision, control, leadership, encouragement and punishment and protecting, what has deposited to the director or supervisor, are being performed or not. And also we investigate if the accident resulted from sport that caused injury, are in result of intentional failure and imprudence and lack of supervision, or not. These directors consists: gyms managers and directors, chairman of the board, different sports technical managers, supervisors, managers, physical education teachers and referees. Sports rights determines legal duties responsibilities of members and their rights. These duties are consist of sports supervisors, referees, competition spectators and athletes.

Probably performing an act causes a responsibility for each aforementioned members or may cause a right for them. In this notion accidents and events that cause serious injuries or maim or decease, from legal aspects, are investigated. (Farahani 2014).

Legal duties obligations of technical directors at sports:

By “technical directors” at sport we mean the people who directly supervise sport activities and direct management that consists: the head coach, coach assistant, sports teacher, lifeguard saviors, head savior, referee, team physician and so on.

The most important responsibilities of legal technical directors at sports include caring physical, mental health and their prestige that based on their decisions they do sports activities. So investigating technical issues failure or wining are not considered at sports regulation. Existing law start by happening the accident and based on real criteria and the accident factors determines that what is the reason and who are the guilts and they deserve what kind of legal reactions (SariKhani 2002).

Legal reaction against technical directors:

Whenever technical director’s negligence causes accident, their legal reaction depends on the following titles:

- 1- The accident’s outcome the may cause physical damage personal injury or financial damage.
- 2- The legal relationships of technical directors with affected by crime.
- 3- The way of technical director’s intervention in happening the accident.
- 4- Their intention or fault in causing the accident (Farahani 2014).

The nature and features of sports faults:

From the opposite notion of IPC clause 3 matter 59 approved in 1991 is comprehended that violation of sports regulations is a fault. In this clause, in the range of actions that are not considered crime, we will read:

“The events due to sports actions is conditioned to this matter that the cause of that events are not contravention of regulations related to that sport, and this regulations are not against Sharia Standards (Legal Standards).

Declaring this sentence confirms the credit of sports regulations in the actions that are in accordance with general criminal regulations and mentions observance of sports regulations for committed innocence, but its opposite notion is used that caused violation of subject regulations subordinate

for General rules and regulations. This sentence is the supervisor of criminal actions, not civil responsibilities. But it’s support can be used in financial liability. Integration of criminal and civil responsibilities in that statute confirms suggested usage clause 3 matter 59 of IPC can be used to confirm this opinion, because in this clause performing sports regulations are innocence cause in the case that they are not against Sharia, and this briefly shows that the credit of sports regulations is not absolute in this context. Furthermore Sharia (Legal regulations) doesn’t permit offbeat damage by trick and abuse of performing sports regulations. From general rights view point the government is responsible for public security and probably, based on this element, prohibits harmful sports in the country and announces its damages more than its social profits. In this case courts are charged to perform national rules and protecting public disciplines. (Katuzian 2008). Civil responsibility is a particular case that harmful work with that criteria is opposite to norms, that is mentioned healthy competition abuse. This criterion is not in conflict with what was declared about “The behavior of an aware and cautious athlete in a situation that a harmful act happens”. Except insisting emergency position and quick decision in that position that makes many error’s permissible, it decreases sports faults. Something the legal system should pay off against it’s inevitable profits via training and guiding the youth. (Aghayeenia 2010).

Risk management:

Based on Bernshtine’s theory 1996, the revolution idea, that describes the border between new (present) tense and past tense, is dominating on risk or risk management (Lehotski 2006).

Risk management is a word that is utilized by experts that consist all strategies that may be used for investigating risks. (Lachapel 2004). Risk management is the process of damage identification and recognition that an organization exposes to it, and is described as the best techniques to contact with these risks (Head and Horn 1991).

The aim of risk management is to prepare necessities before confronting damages. To approach this aim. Controlling required resources before happening any damage, by using correct programs to prevent damages and controlling them, is required.

(Setorg Dareshuri, Deloi Esfahani; 2006: 1).

Effective factors due to the risk attitudes:

Many researchers investigated demographic features, personal characteristics and environmental situations that determines one's reaction to the risk. These studies helped understanding how a person reacts in a risky situation. They believe that such behaviors are based on very complex factors and they change over time. They also show that a person reacts to financial risks, in comparison to social and physical risks, alternately.

The studies tried to explain the person's reaction to the risk based on demographic and personality characteristics and generally eventuated to contradictory results (Doosti 2008).

Investigating in planned risk management:

Risk management is something more than an idea or a perception, it is a process that should be employed by people or an organization.

Therefore, an amount of studies of planned risk management, about people's behavior, in comparison to the ideas, feelings or viewpoints, has been more centralized on the people's behaviors specially those who are responsible for organization's risk management or programs. The important conducted studies are related to sport's risk management of sport directors and manager's behaviors at several championships or sport colleges and sport high schools and non-state sectors (Iron 2004)

Sports facilities:

Based on Nazargori and wang 1993, sports equipment owners should take care sports places and control other member's actions. The general rule is that the sport equipment owners should be aware of the things cause physical injuries. An equipment manager should do the following actions at least to be considered an acceptable manager (Apenzler and Luis 2000):

1. Protect and take care the area safely.
2. Entirely check the area to find the hidden and obvious risks.
3. To remove the risks or warn them.

4. To anticipate predetermined activities and do the essentials to protect people from predictable risks.
5. Do the activities by full resolution to protect the public in the environment. (Apenzler , 1998).

Collegiate sport programs:

Collegiate sport programs have changed to an extensive business that affects public relationships and finally financial stability. This problem has forced collegiate officials to have a deep view on how risk management affects collegiate sport programs operations. Universities and colleges, especially various sport parts have the responsibility of taking care those people who may be injured by predetermined risks.

The injured athlete may acknowledge that this default may include the lack of right training, the lack of right supervision, the lack of required instruments, and lack of adequate medical cares. In addition to put the name of the coach in the prosecution list, the athlete may mention the sport director, because the sport director is responsible for all the sport programs. The sport director, because of his role in damaging the athlete in the result of lack of adequate oversight on programs and coaches, may be prosecuted (Gray and Crawl 1993).

Coaches:

Since the sport injuries have been increased in recent years, the coach's responsibilities due to participant's security are increased too. For trial avoidance of coaches and for remaining them in sports backgrounds, it's necessary to anticipate the potential risks and do essentials to prevent irrational injuries of their athletes (Iron 2004).

Research method

The research method strategically is descriptive, practically is a survey research, from the aim aspect is practical, its data gathering location is a fieldwork. Statistical society includes all directors and managers in sport area that are 255 members. Sampling method in this research is simple random sampling and for determining the sample volume, Morgan's table is used. Given that the statistical society was

255 members, 150 members were determined as the research statistical sample. For data gathering a researcher based questionnaire, in relation to sports regulation concepts, is used.

The number of questionnaire’s questions were 39 that are described in 5 options Likerti’s format. (very low, low, average, high, and very high). The validity of this questionnaire is confirmed by 10 professors and experts. Its stability was performed on 30 experts, teachers and sports boards and association directors at Kurdistan province, that Cronbachi alpha was 850/0.

Another questionnaire in this research was Tomas Iron’s risk management questionnaire that contained 49 questions about risk management behaviors that was previously standardized at foreign countries. This questionnaire is Localized and Standardized by Veisi in 2008, that its coefficient is 76%. This questionnaire includes 49 questions that the amount of risk management behavior performance is calculated based on Likert’s 5 point scale. The validity of this research is confirmed by 10 professors and experts and its stability previously is confirmed by Veisi and Mohammadi (2008).

In this research questionnaire’s stability was 89%. To investigate the research’s hypothesis, the Pearson correlation coefficient in SPSS software, version 18, was used.

Findings

The research main hypothesis: There is no relationship between the sports director’s familiarity of sports rights concepts with risk management behaviors at Kurdistan province.

Table 1: The results of Pearson correlation coefficient from the sports director’s familiarity with risk management behaviors

The (extent of) sport directors’ familiarity with sports rights concepts	The Pearson correlation	Significance level
Risk management behaviors	0/422	0/013

P<0/05

Due to the results from table1, at the 0/05 significance level, the research hypothesis is confirmed and as a result there is relation between the extent of sports directors familiarity of sports rights concepts with risk management behaviors at Kurdistan province. The intensity of this correlation is 0/422 and is in a direct direction, it means that by increasing sport director’s familiarity with sports right concepts, risk management increases.

Due to the results from table2, the research hypothesis at %5 significance level is confirmed and as a result, there is relation between the extent of sports directors familiarity with sports rights concepts and supervision exercised (applied supervision) in their plan at Kurdistan province. The correlation value is 0/311 and is in the right (straight) direction. It means that supervision exercised at their plan increases by sports director’s familiarity with sports rights concepts.

The second zero hypothesis: There is no relation between sports director’s familiarity with sports rights concepts and medical exercised problems (applied medical problems) in their programs at Kurdistan province.

Table 3: Results of Pearson’s correlation, the extent of sports director’s familiarity with sports rights concepts and applied medical problems to their programme

The extent of sports director’s familiarity with sports rights concepts	Pearson’s correlation	Significance level
Applied (exercised) medical problems to their programmes	0/0543	0/009

P<0/05

Due to the results from table3, at 0/05 significance level, the research hypothesis is confirmed, therefore there is relation between the extent of sports directors familiarity with sports rights concepts and exercised (applied) medical problems to their program at Kurdistan province. The amount of this correlation is 0/542 and is in the straight (right) direction, it means that by increasing sports director’s familiarity with sports rights concepts, in their program applied medical problems increases.

The third zero hypothesis: There is no relation between the amount of sports director's familiarity with sports rights concepts, and applied facilities in their program at Kurdistan province.

Table 4: The results of Pearson's correlation coefficient, the extent of sports director's familiarity with sports rights concepts and with applied facilities to their programme

The sports directors' familiarity with sports rights concepts.	Pearson's correlation	Significance level
Applied facilities to their programme	0/086	0/112

P<0/05

According to results from table4 at 0/05 significant level, the research hypothesis is rejected as a result there is no relation between sports directors familiarity with sports rights concepts and applied facilities to their program at Kurdistan province.

The forth zero hypothesis: There is no relation between the amount of sports director's familiarity with sports rights concepts and applied facilities to their program at Kurdistan province.

Table 5: Results of Pearson's correlation, the sports directors familiarity with sports rights concepts and applied facilities to their programme

Sports directors' familiarity with sports rights concepts	Pearson's correlation	Significance level
Applied facilities to their programme	0/069	0/263

P<0/05

According to results from table5 at 0/05 significance level the research hypothesis is rejected and as a result there is no relation between sports directors familiarity with sports rights concepts and with applied facilities to their program at Kurdistan province.

The fifth zero hypothesis: There is no relation between sports directors familiarity with sports rights

concepts, bystander's safety and applied society control, in their program at Kurdistan province.

Table 6: Results of Pearson's correlation coefficient, sports directors familiarity with sports rights concepts, bystander's safety and applied population control in their programme

The sports directors' familiarity with sports concepts	Pearson's correlation	Significance level
Bystanders safety and applied society control in their programme	0/109	0/098

P<0/05

According to results from table6 at 0/05 significance level, the research hypothesis is rejected and therefore there is no relation between sports directors familiarity with sports rights concepts and bystanders safety, and with applied society control in their program at Kurdistan province.

Sixth subsidiary hypothesis: There is no relation between sports director's familiarity with sports rights concepts and with applied transportation in their plan (program) at Kurdistan province.

Table 7: Results of Pearson's correlation coefficient, the amount of sports director's familiarity with sports rights concepts and with applied transportation in their programme

The amount of sports directors familiarity with sports rights concepts	Pearson's correlation	Significance level
Applied transportation in their programme	0/476	0/002

P<0/05

According to results from table7 at 0/05 significance level, the research hypothesis is admitted, and as a result there is relation between the sports directors familiarity with sports rights concepts and applied transportation in their program, at Kurdistan province. The value of this correlation is 0/476 and is in the straight (right) direction, it means that by increasing sports director's familiarity with sports

rights concepts, applied transportation in their program increases.

The 7th zero hypothesis: There is no relation between sports directors familiarity with sports rights concepts and applied safety and facilities in their programme.

Table 8: The results of Pearson’s correlation coefficient, the amount of sports directors familiarity with sports rights concepts and with applied safety and facilities, in their programme

The amount of sports director’s familiarity with sports rights concepts	Pearson correlation	Significance level
Applied safety and facilities in their programme	0/366	0/0042

P<0/05

Based on results from table8 at 0/05 significance level, the research hypothesis is confirmed, therefore there is relation between the sports directors familiarity with sports rights concepts, applied safety and facilities in their program, at Kurdistan province. The value of this correlations 0/422 and is in the straight direction. It means that by increasing sports directors familiarity with sports rights concepts, safety and applied facilities will increase in their program.

The 8th secondary hypothesis: There is no relation between the amount of sports directors familiarity with sports rights concepts, applied recruitment and upbringing to their program at Kurdistan province.

Table 9: The result of Pearson’s correlation, the amount of sports director’s familiarity with sports rights concepts and applied recruitment and upbringing, in their programme

The amount of sports director’s familiarity with sports right concepts	Pearson’s correlation	Significance level
Applied recruiting and training practices in their programmes	0/066	0/163

P<0/05

Based on results from table 9 at 0/05 significance level the research hypothesis is rejected, therefore there is no relation between sports directors familiarity with sports rights concepts, applied recruitment and training in their programs at Kurdistan province.

Discussion and conclusion

The aim of this research was determining the relation between the amount of familiarity with sports rights concepts and risk management behaviors in between sports directors. The results of the test in the basic hypothesis showed that there is a significant meaningful relation between sports directors’ familiarity with sports rights concepts and risk management behaviors at Kurdistan province (P=0/013). Risk management is the process of recognition or identification of the damage that an organization exposes to, and is described as the best techniques to deal with these damages. So, it can be said that sports director’s familiarity with sports rights concepts, and increasing risk management behaviors causes decreasing being in the expose of risk, damages or accidents in between the athletes. These results are in consistent with the results of Aghayeenia (2007), Kashef.

The results showed that there is a significant relation between sports directors’ familiarity with sports rights concepts and applied supervision in their program at Kurdistan province. (P=0/013).

Applying duty of favorable supervision for a sport director has various dimensions. Being at the sport halls and monitoring perfect sport programs is one of these dimensions. Each sports director should monitor current sport activities based on his responsibilities to progress this activities performance in a healthy process and without stress and tension. The directors claim that they are not the cause of chaos and turbulence of bystanders and athletes at sport places. This is a right claim so we should know that the directors are responsible for chaos and turbulences, so irregularities backgrounds should be vanished.

Necessary arrangements to establish order should be anticipated, and performed (Farahani et .2014). The results of Veisi and Mohamadi showed the levels of risk management behaviors performance between South Khorasan sports boards

(sports association) has a partly favorable condition, and also the results of Soleimani researches (2013) showed that there is a significant difference between the kind of swimming pool's management (public or state), in equipment inception, equipment and tools protection and the staff position, but there is no significant difference between the kind of swimming pool's management (public or state), in medical considerations, the participants from index and participants training.

The results showed that there is a significant relation between the extant of sports directors (managers) familiarity with sports right and applied medical problems in their program at Kurdistan province ($p=0/09$). The stadiums should be equipped for disabled people specially those who use wheelchairs, and also they should be aware of the problems enabled people using wheelchairs face to, and necessarily being ready to assist them.

Most of people who use wheelchairs usually have an aid or a worker, so their problems should be considered seriously. In emergency, when an accident happens, for evacuating disabled who use wheelchairs appropriate methods should be considered.

Patients or the people expose to illness may need medical emergencies. So competent and qualified officers to answer the questions should be active.

Maghami and Asefi (2013) concluded that the levels of performing risk management behaviors of Azad university physical education members, from the country provinces are not enough favorable. So necessarily more education, considering medical problems, creating favorable opportunities for the directors of physical education group of Azad universities, for being familiar with risk management and utilizing it to hold competitions and sports events, are necessary and essential. Madahian & Amiri (2013) also concluded that, despite all changes, sports actions mean the actions performed by the player to get points or winning in the play regulation framework, except from sports accidents (medical) it is physical conflict in between the players or individuals court or things in the way causes physical damages.

The results showed that there is no significant relation between sports director's familiarity with sports rights concepts and applied equipment's in

their programs at Kurdistan province ($p=0/112$). One of the sports director's familiarities with sports rights is related to applied equipment's in their schedule. Based on Malroni's model (1995), the aim of risk management is increasing the monetary compensation probability, while it's accompanied with preparing equipment's.

In order to do this, a risk manager should recognize probabilistic damages and evaluate these damages and behave them and finally applies standard practical methods.

The results showed that there is no significant relation between sports directors familiarity with sports rights, with applied equipment's to their program at Kurdistan province ($p=0/263$). Based on Nazargari and wang (1993), the sports equipment owners are obliged to be careful enough about sports places, and control other members actions. An equipment manager should do following actions at least to be accepted as a favorable director. (Apenzler and Louis 2000):

1. Keep the area and the environment safe.
2. Control the area completely to find the hidden or obvious risks.
3. Remove risks or warn them.
4. Anticipate predetermined activities, do the needs to safe the people against predictable risks.
5. Preparing actions for public safety in the environment.

The results showed that there isn't a significant relation between sports directors' familiarity with sports rights concepts, with bystanders' safety and applied population control in their program and schedule, at Kurdistan province. ($p=0/098$).

In the case the place isn't safe enough and accident happen, (such as: destruction of a part of bystander's place) and it causes some of bystander's injury, the sports director will be responsible for. The audience (bystanders) places should be contractually safe enough and there shouldn't be the risk of land sliding and crumbling. The other dimension of this duty is the exact knowledge of directors about the stadium's capacity and preventing bystanders' enter ace more than the stadiums capacity.

The results showed that there is a significant relation between the sports directors familiarity with

sports rights concepts, and applied transition in their program at Kurdistan province ($p=0/02$).

Tomalla and Liong (1996) believe that successful achievement of the objectives depends to how risks and unknown issues around it, are evaluated, and how favorable decisions, about risk control and management, are made. Natural calamities, such as: abnormal rains, hurricane and storm mostly ends to the rupture of delivering services to customers and also endangers individuals healthy. The risk recognition determines all potential events, and causes the directors to decrease the unpredictable events by preventive measures and proceedings during transportation.

The results showed that there is a significant relation between the extant of sports director's familiarity with sports rights concepts, and applied security and equipment's in their schedule at Kurdistan province. ($p=0/042$). The directors are responsible for inspection and elimination of defects and utilized equipment's at sports places. Equipping new constructed sports constructions also consists this regulation.

Because potential risks may cause the athletes injuries. Ongoing investigation of constructions, buildings, lawn, swimming pools, locker room, showers, gyms and other sports complexes buildings to estimate repairing and corrective proceedings, set and send required suggestions about this issue to superiors and following them up, is another dimension of the sport complexes sport directors and supervisor's supervision. So, its violation causes responsibilities. And also results showed that there isn't significant and meaningful relation between the amount of sports manager's and director's familiarity with sports rights concepts, employment and applied education in their program at Kurdistan province. ($p=0/163$).

Studies about recruitment condition, applied education and it's relationship with sports rights shows that the managers with official hiring condition that work full time for their organization are more familiar with sports rights concepts than those who have informal employment condition and work part-time ;because they concentrate on one task and are not engaged in other issues such as; training and executive jobs, so they spend all their efforts and energy for their aim and responsibilities.

Finally, due to the current study results and

backed research (back up research) it seems that risk management and sports right is a new issue, so applying it needs special facilities and situation that rarely exists in state institutions and organizations, and until the proper situation, it cannot be expected these behaviors would be in the right way.

The present research has achieved valuable results about the extent of Kurdistan sports directors familiarity with sports rights concepts and risk management behaviors, and it is holed these results be utilized by sports staffs of the province. So considering the research findings, it can be offered that sports managers and directors of Kurdistan province can provide sports facilities for stadiums, construct safe seating's for spectators, make a space between spectators seating and the field and physical barriers, increasing exit gates provide security for competition area, eliminate the risks, predicting predetermined activities, meet the needs to protect individuals and also change hiring condition for contract employees, corporate employees and change contractual condition to official staffs condition.

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Study of the influence of Persian literature on Turkish literature

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The mutual effect and interaction of language, culture and literature of different nations is an inevitable issue and, in this regard, languages with scientific, artistic and literary features are affected by each other in different ratios and can mutually affect each other. Turkish language is one of the main languages affected by other languages and especially Persian language. Persian language has shown its most important influence on Turkish literature. In light of such influence, court literature was appeared and the proses and poems of this literature used Persian language sufficiently. Basically, court literature, known as Turk Classic Literature and with 6 centuries domination on the thinking and emotions of Turk nation, is one of the most important common cultural points between Turks and Iranians. Literature of the 600-year period began from 13th century and continued in mid-19th century and relatively destroyed with the beginning of the age of regulations, has been affected by Persian language and review of the works of poets and authors of that age can be firm evidence on this claim. In this study, with review of influence of Persian language and literature of Turks over the history, the advent and formation of Turk court literature under impact of Islam and Persian literature is investigated and the most important indicators have been discussed including imitating and benchmarking Persian poets by court poets in different literary fields.

Keywords: Anatolia, Turks, Ottoman literature, Court literature, Prosody rhythm, Poetry

Introduction

The influence of Persian culture and language on Turks has a historical process and analyzing the curve of its impacts can clear 4 important historical events in this influence more than other effective factors in this field:

1. Occupation of West Lands, especially Asia Minor, by Cyrus (Kouros) Achaemenid, could make the territory be one of the most productive Arabic provinces in territory of Achaemenids for more than 2 centuries. After that, Asia Minor followed Macedonian in time of Eskandar and after him, he followed Seleucid for a while and was sometimes a citizen of Macedonian, so that both governments were weakened and became a part of Roma. With the progress of Achaemenids in Western lands, Ayn Mehr entered to Asia Minor and Greece and was official rite and religion of Romans for 300 years and till recognition of Christianity.
2. Since the time of Pars, some inscriptions have been recognized in different areas such as a neighborhood called Goreme and also, there is a cemetery in adjacency of Tarsoos city in South Coasts of Turkey. Hence, there is no doubt that this territory has been affected by Persian culture and religion. In next ages, because of old history and because of adjacency with Iran, the residences of this zone (Asia Minor) could not be unaware of Iranian rich culture and Persian literature and language (Nazari, 2000: p.28).
3. Trend of Turks for Islam Religion: when Turks were gravitated to Islam in 9th and 10th centuries, they had to learn Quran to perform their religious duties. By that time, Muslim Turk used Arabic scripts same as other nations who had become Muslim. In schools in big cities like Bokhara, Samarqand, Herat and Kashgar, Arabic Language, commentary (tafsir), hadith, jurisprudence (fiqh) and theology used to be taught to students. In these schools, in 10th century, a big Philosopher like Farabi were grown and in 11 and 12th centuries, a great commentator like Zomokhshari was grown. Arabic words influenced in Turkish language through both actions of taking religious duties and through the schools, at which Arabic language was the official language for education. In schools of Muslim nations, the main works of these nations and sciences forming Islamic culture used to be taught. Hence, a common culture was established between Turks and Muslims (Aidin, 2006: p.17-18).
4. Actual influence of Iranian culture was begun from 463 A.H., in which Alb Arsalan could overcome Eastern Roman Emperor Romanus Diogenes in Malazgerd War and could open the gates of Asia Minor to Islam and Persian Culture.
5. The environment of Seljuk System in Rome was definitely Iranian environment, so that out of 16 kings of the dynasty, 8 had Iranian Name: 3 Keykhosro, 3 Keyqobad and 2 Keykavoos. Among the princes of that dynasty, there are named such as Shahanshah, Keykhosro Shah, Jahanshah, Key Fereydoon and Famararz Siavash, Bahramshah and Kamyar (Riyahi, 1971: p.81).
6. Turks became familiar with Islam through Persian language and because of preference and superiority of Persian language compared to Turkish language by that time, Persian language and culture could become as an imitable cultural reference for Turk poets and authors and Turk literature was affected by Persian language during centuries and in entire age of court literature (Vahed et al, 2015: p.138).
7. With the destructive attacks of Mongols to Iran and destruction of Iran's Cultural cities, people began to migrate to safe areas of Islamic territories. Rome, because of accepting dominance of Mongol and giving tax to Mongols, could become a shelter and safe place for the immigrants and as Persian language was common in this territory since long times and the environment of Seljuk system in Rome was absolutely Iranian environment, their court became a place for Persian poets, author and scientists.
8. One of the most important causes of promotion of Persian language was that in Mongol Attack, some great scientists and Poets of Iran like Rumi, Najmedin Razi, Ohadedin Kermani, Ibn Bibi, Fakhredin Araghi, Saied Farghani and Seifedin Farghani migrated to Asia Minor unfortunately. As majority of the refugees were Sufi and Mystic, Persian works, which were

previously scientific and literary works, gained mythical appearance and nature and brilliant works were created in field of Sufism, especially in field of Molavieh and on Generosity rule as a common rule and rite in Asia Minor (Riyahi, 1971; p.88).

9. Migration of many poets, authors and scientists of Iran in Safavid Era because of Shiite biases and toughs of Safavid Kings for followers of Sunni religion made the Sonneteer and Masnavi-maker and storyteller people in Iran feel insecure and refuge to courts of Ottoman and Teimurid kings in India to save their life and to gain income. The fanatic and extremist kings used to be tough with Sunnis and if Sunni poets and scientists used to insist on their religion, the used to be killed or escape to abroad. Some of them went to India and some refuged to Transoxiana Uzbeks and some others went to Rome. This was the fourth collective migration of some people from Iran to Asia Minor.

Concept of court

Court (Divan) has been considered as a word with same root of Dabir and Dipi in Ancient Persian meaning line and its Arabic form is Divan and means in Persian and Arabic office for public calculations and an office maintaining name of armies and troops and people of Atiyya (gift) and offices like this used in governmental systems and something that today is known as governmental offices and ministries. Therefore, when saying office of charity and alimony, the aim is the office for charity and alimony or a system managing charities and alimonies (Anvari, 1993: p.4-5).

To introduce Turk literature in the past, several terms should be introduced. The term “court” (Divan) or “courtier” (Divani) is one of the most important terms. This word is used for 7 meanings in Turkish language.

- 1- Special Public Office
- 2- War Consultative Assembly
- 3- The Throne of Ottoman King
- 4- Supreme Court
- 5- Respect rite, which should be observed in presence of elite people
- 6- An arranged collection on special issue like Di-

van of Turk Vocabulary

- 7- Collection of poems of brilliant poets selected by elite linguists like “Divan Nadim”, “Divan Baghi” and “Divan Fozuli”
- 8- Scientific translations, prose, etc.

The term “court literature” may be originated in the latest meaning (Notghi, 1970; p.2).

Literary activity of the linguists and authors of mid age of history of Turk Literature, began from deployment of Roman Seljuks in Anatolia (11th century) and ended in literary age adjustment period (half of 19th century), was centralized in the court and Monastery (Khanghah). The two literary and cultural centers including Divan Edebiyati (court literature) and Takke Edebiyati (monastery literature) were significantly influenced by Persian language and literature.

At the medieval, there was another literature activity center named Halk Edebiyati (folk literature) in Turkish language and was invaluable in terms of literature. By that age, Turkish poetry has been inferior to Persian Poetry and Turkish poetry was not valuable for people (Golshani, 1976; p.3).

Concept of court literature

Interior Literature/ Literature home/ ancient Turk literature, classic Turk literature, court literature refers to a branch of Turkish literature, which was emerged in late 5th century under influence of Islamic-Iranian culture and civilization and especially Persian Literature in Transoxiana and was gradually promoted in Anatolia since 7th century and declined after that. Finally, in 19th century, it was destroyed with the influence of Western culture to Ottoman and after emergence of adjustment literature (Raeisnia et al, 2014; p.99).

The indicators of this Turkish literature are in scope of Ottoman literature and the term “court literature” can’t be used for a literary history of Iran, India or anywhere else. Court literature was created with the dominance of early Ottoman kings on Anatolian kings and with the dominance of a pervasive government and as a result, desire of Ottoman Turks to find an identity and to follow former elite kings to support literature and art. As it is clear from the title of court literature, Ottoman court has played the most important role in establishment of this type of

literature (Encyclopedia of Persian literature in Anatolia and the Balkans, 2004, vol.6; p.67).

Characteristics of court literature

The most important characteristics of the long lasting (court) literature could be as follows:

- a) In terms of belonging to special groups and small centers separated from ordinary people and the society, the literature is free from ups and downs of social life and according to Gülpınarlı, “court poets inspire not the nature and innate world, but also they inspire divans and collections of each other”.
- b) Court literature is a traditionalist, conservative literature and committed to rules and principles of rhetoric. Same as forms and frames of order of court literature that is unchangeable, the themes, similes and metaphors in it have been also predetermined. Although court poets could create something new in terms of secondary fields, they had to observe basic contractual principles.
- c) Court literature has taken a lot of words from Persian language and even some structures of the literature and some elements of Iranian epics and prosodic meters and poetic forms and industries of Persian Literature have been used in this literature with no change and with same Persian name. In addition to translate poetic fictions to Turkish, Court Poets make poem of same stories with same names in same Masnavi form and even create Khamseh. Gülpınarlı, due to such adaptations, believes that in addition to this issue that each court poet is under influence of others, all of them are under impact of Iranian poetry. Hence, the literature is a declined and slightly localized literature of Iran Literature (Raeisnia et al, 2014; p.99-100).

One feature of court literature is that it is attributed to the court. Out of court, the literature had no support, so that the golden chain of this literature was ruptured in the middle of collapse of Seljuk regime and beginning of power of dominance of Ottoman, when the ruling system was in hand of simple local rulers. To make the court literature become important again in domain of literature, people were wait-

ing till the dominance of Yyldyrm Bayazid Khan.

Another feature of Turk court literature is its Iranian origin. Persian language was the formal language in Seljuk Court of Anatolia (same as the value of French language when was the formal language in Tsarist court and Russian aristocratic families and was preferred to Russian Language) till 13th century that the story of this study begins and when Persian language was in peak of its beauty and glory. Turk governors were impressed by power of this literature and used to prefer it to Turkish language of folk language. As the training style of Turk nobles was in such manner that they used to learn Persian language since the early days of birth, they had no problem with understanding details of Persian language and familiarity with these languages was a sign for good education and sublime ancestry (Notghi, 1970; p.2-3).

In addition to get some words and phrases from Arabic and Persian language and prosodic meters and rhythms, court literature has also taken poetry forms and frames and types of literary from Persian Literature and has used with same common terms with no change. Hence, poems such as ode, sonnet, tarjiband (strophe-poem) and Tarkib Band (poem of several stanzas of equal size) and ballade that have been mainly formed in Arabic literature and have been reprocessed in context of Persian literature and forms such as Masnavi with its root in Pahlavi Literature and quatrain (Roba’ei) with Iranian origin have been used in same form in court literature. Moreover, forms such as Eastern (song) and Toyough have also entered to ottoman court literature from folk Turk literature.

The prosodic meters used in Persian classic literature with same named of “Bahr Tavail” (long meter), “Bahr Madid” (prolonged meter) and other names have influenced court literature. It should be mentioned that because of structural differences of Persian and Turkish languages, it is hard to adapt the meters to Turkish language.

Court poets have translated majority of Persian divans for several times; e.g. Ferdowsi’s Shahnameh has been translated to Turkish prose and poems several times and has been changed into one of the sources of ottoman court poetry and many heroes in these stories in field of legendary heroes have entered to poems and proses of Turk court literature (Nak: Islamic Great Encyclopedia, 2008; p.224).

Court poets were significantly affected by Iran in terms of form, meter, language, imagery and worldview. At the same time with using Arab poems in their ode and sonnets, they used to follow Iranian poetry in masnavi and quatrain poems and became familiar with expanded form of prosody specified to Arabs with the mediation of Iranians. They got many terms, words and interpretations and may compositions of Persian language and used them professionally. In terms of using poetry figures and imagery, they utilized Iran's rich literature and finally, they paid attention to worldview of sharia and thinking style of Sufism.

Many beautiful similes in court literature have been adapted from Iranian Literature (Delbaripour, 2003; p.93).

Influence of prosody and forms of Persian poetry on court literature

In past Ottoman poetry, types of poetry forms have been same forms in Persian poetry: ode, sonnet, quatrain (Roba'ei), Tarjiband and Masnavi. Types of prosody and the rules of rhyme are same of Persian prosody and rhymes. Again, literary figures are same figures in Persian (Riyahi, 2011; p.226).

Poets who have selected prosodic meters for their poems have referred to difficulty of inclusion of Turkish language in framework of prosody and have mentioned that the reason for preferring Arabic and Persian words to Turkish terms and words is bottleneck of prosody. For example, one can refer to Soheil va Nobahar of Khajeh Mansur, who has mentioned at the end of book that poetry in Persian and Arabic in prosodic meter is simpler than Turkish language.

Such idea has been also given in the introduction of *Leili Majnoon* of Fozouli. Finally, such thinking, at the same time with promotion of prosody, could lead to growth and increased number of Persian and Arabic words in Turkish language to meet requirements of prosodic meter (Vahed et al, 2015; pp.143-144).

Turks have had considerable traditional works in field of poetry since last times, in which syllable meter is used.

After accepting Islam Religion, under effect of Iran Literature, Turks tended towards Persian poetry and accepted Persian language as the language

of poetry. Turk poets have used Iranian prosody in their early poems. In the book "*Kutadgu Bilig*" as the first great Islamic work of Turk Literature has used the meter "Fa'ulon, Fa'ulon, Fa'ulon Fa'ul" that is the meter used in *Shahnameh*. The second elite work of Turk Islamic work is "*Atabat Al-Haqayiq*" with religious and ethical content that is again in same prosody with *Shahnameh*. This meter has been used in the literature of Middle Asia after *Atabat Al-Haqayiq* in works such as *Moein Al-Morid* and *Javaher Al-Asrar* and has been then reflected in Turkish of Asia Minor (Aidin, 2006; p.68).

In addition to meter, the forms of poems in court literature have been also derived from Persian literature. For example, one of the most important and the earliest forms considered from the beginning by court poets is *Masnavi*. As it is clear, form of *masnavi* is a special form in Persian language and there is no form like this in Arabic language. Beginning of this form has been in post-Islam Era by poets like *Rudaki* and *Ferdowsi* and has influenced later in Turkish literature.

Proses of court literature and effect of Persian literature

Court literature was poetic literature and the volume of prose works including histories, statements, origins and travelogues and embassy letters have not been probably more than one tenth of poetic works. Hence, proses have been generally under effect of poet and except for a few works, proses have been mainly artifact and complex and it could be mentioned that they have been accumulated more than poems with Arabic and Persian words and phrases (Raesnia et al, 2014; p.99-100).

Turk Prose composers, who used to arrange historical proses, ethical books, political proses, letters, statements and travelogues, used to apply various Persian words and interpretations in their works. For example, historical proses of Turks that could be considered as main forms of prose literature are full of Persian terms and words. *Taj At-Tavarikh*, written by *Khajeh Sa'ededin Afandi*, one of the famous historians of 16th century and teacher of *Sultan Morad III* whose work is a brilliant work in Ottoman Prose, is one of these works, in which influence of Persian language is definitely tangible (Delbaripour, 2003; p.91).

Folk literature

As it is obvious, Turks had rich folk literature in 4 and 5th centuries A.H. The literature has been changed slightly because of various reasons during the consequent centuries; although these changes are not easily tangible. By that time, Turks preserved their old and basic scripts. Some works remained from those ages could gain educational nature containing ethical and moral structures. Evil nature of avarice and jealousy, the need to earn a reputation among the people by the honor and gratuities, benefits of being hero, glory of God, respecting parents and the elderly and obeying them used to be mentioned in these sections simply (Nak: Sobhani, 2006; p.61).

As it was mentioned before, the literature of elite and educated class before the adjustment period of court literature was called Andaron (interior) literature or old literature and the ordinary people literature was also known as folk literature. It seems that the court literature was begun by Sultan Valad and folk literature was begun by Yunes Emreh.

The differences between two branches of literature are as follows:

- a) Linguistic difference: the language of court literature, despite to folk literature, is a heavy, elite and complicated language. This language is full of complicated and difficult words and compositions.
- b) Poetic form: poetic form in court literature is derived from Persian and Arabic literature and includes forms such as ode, sonnet and masnavi; although folk literature includes old and local forms of Turkish language like Varsaqi, Qushmeh and Mani.
- c) Meter: court poetry is prosodic poem; although folk poetry is syllabic.
- d) Content: the main content of court literature is religion; although the main theme and content in folk literature is ethnicity (Vahed et al, 2015; p.143).

Folk literature has been existed over the history, alongside with official and classic literature of Turks simply and slowly. However, in literature history books of Turks, their names are rarely given, since folk literature was belonged to ordinary people and they either had no power to write or the sultans or

owners of powers used to deprive their authority to do this, though it included some information on seasons, customs, agriculture and animals, etc.

In Anatolia, in big civilization centers, the selected class could gain school educations and enrich their taste with elite works of Iranian literature and they also used to try to make some work in same style and nature; although majority of ordinary people were almost unfamiliar with it. Not only Turkmen nomadic tribes, nomads in border of the Rome, Armenia or Georgian nomads who used to protect borders, but also major part of people were not able to enjoy the poetry, because they were unfamiliar with this language. Therefore, some simple and elementary works of Turks had religious-epical nature and some of them were epical poems. Ozanlar¹, who used to sing songs with harps to satisfy emotions of people across the Anatolia, used to maintain Turk rites and traditions with power and intimacy (Sobhani, 2006; p.290).

Impact of Persian language and literature

In addition to court literature (divan literature), Turks were also impressed by Persian language in monastery literature. The impact was realized because of migration of wise people such as Baha' Valad, Najmedin Razi and Ohedin Kermani, who had left their own country for special reason and were living in Turkey. The words and compositions observed in Turkish travelogues can show the amount of effect of Persian language on mythical literature (Delbaripour, 2003; p.93).

Among the early Turk Sufis with Sufism works, one can refer to Ahmed Yasvi. Some people have called him as the first person with sufi works in Turkish language and a person who has served Turkish language a lot through this. Later, he became founder of a sect in Sufism called "Yasviyeh".

Although Ahmed Yasvi was fluent in Arabic and Persian languages, he used to write his mythical teachings in Turkish and hence, he has been also considered as the founder of Turkish National Literature. His mythical collection called "Divan Hekmat" is available (Vahed et al, 2015; pp.145-146).

Yunes Emreh is the greatest representative of

¹ Ozanlar: the oldest Badger magician - Necromancer and Poets were Oguzlar. Turanians used to call these people as Shaman. These people with several skills such as magicians, dance, musician and health practices were important for people (Sobhani, 2006; p.290).

Sufism literature in Asia Minor and is also a poet living in late 13th and early 14th centuries and all Dervish poets were influenced by him. He has a Turkish Poetry Divan and a Masnavi in Turkish language. He is the first poet, whose poems have been maintained to the date as a complete collection of poetry. In his divan, he has 356 verses including 287 national (syllabic) meters and 69 prosodic meters. His masnavi "Resala An-Nasiha" has 575 verses with prosodic meter and with Sufism and ethical content (Aidin, 2006; p.27).

Until the time that the power was in hands of Seljuk regime and they were dominated on Anatolia, their centralization was an introduction to influence and promotion of Persian Language there; although after weakening and collapse of Seljuk, Molavieh could be considered as the most factor to continue, complete and stabilize the process. Persian language, which in 7 and 8th was belonged to centuries in court and courtiers, divans, poets, letters and governmental brokers and was growing through this, was then influencing in different classes of people through Molavieh monasteries.

Increased number of Persian terms in Molavieh monasteries and performing masnavi reading in meetings of this dynasty had changed Persian language to the language of saying prayers for truthful Sufis (Golshani, 1976; p.2).

Discussion and conclusion

Iran and Turk nations have long history in cultural and political adjacency and interaction and this has provided conditions, so that the two nations could be affected by each other. In this regard, cultural, literary and scientific portion of Iran is more than Turkey in terms of effectiveness. From the beginning of entering to Iran Plateau (4th century A.H.), Turks became familiar with Iranian culture and language that was the most brilliant symbol of the culture. Afterwards, they gained dominance on some areas of Iran and became more familiar with Iranian culture and language.

Among all historical-political events paving the way for influence of Persian language in territory of Turks in Anatolia, the most important event was acceptance of Islam religion by Turks. The Turks who accepted Islam about 2 centuries after Iranians were affected by Iranians more than Arabs since early 10th

century.

This issue could change life of Turks deeply and the new rooted culture was created in that territory.

The most important effect of Persian language on Turkish language was in field of literature. In light of the impact, ottoman court literature was emerged and the prose and poetic works of the literature used Persian language. Court literature/ Classic Turk literature with influence about 6 centuries in thought and emotions of Turk Nation is one of the common points between Iranian and Turk culture. Court literature was emerged in second half of 13th century and under influence of Islamic culture and using words of Turkish, Persian and Arabic languages and extended its historical-geographical dominance. Court literature seems to be more authentic. The references of this literature could be divided to two religious (Quran, hadiths, stories of prophets) and non-religious (Iranian epics, historical and social issues) sections.

The influence with its process began from trend of Turks for Islam and continued to the age of adjustments in 19th century was too deep and clear that can be easily observed in works remained from poets of the 600-year age.

The poets of that age had trend for the type and content observed in Iranian Literature and were thinking about considering large part of the contents in Turk Literature.

Court literature was the literature of special groups and its position was only among kings and courtiers and military officials, scientists, poets and literati and was less related to ordinary people and their literary creations.

Influence of Persian-Iranian language and culture in Turks caused big changes in this country. Recognition of Persian language as official language and court language during consequent centuries in Anatolia, deep effect of language, style, meter, form and content of Persian poetry on Turkish poetry, imitating Iranian poets and imitating them in Turkish poetry that could lead to sense of equality and sense of superiority to Iranian poets, advent of different Sufis sects, especially Molavieh following the mystics of the way migrated to Asia Minor over the history because of attacks of Mongols or religious and anti-Sufism biases of Safavid kings and the effect of Persian mythical poetry on Turkish mythical po-

ems, supports of Ottoman sultans of Persian poems and literature and finally, presence of soul of Persian language in the literature of age of adjustments are the most important changes in history of literature of Ottoman Turks in Asia Minor.

Court literature was emerged in late 5th century under influence of Islamic-Iranian culture and civilization and especially Persian Literature in Transoxiana and was promoted in Anatolia since 7th century and reached its peak in 10th century. After that, its prosperity was gradually declined and finally, in 19th century, it was almost destroyed with the influence of western culture among Ottoman Turks and advent of adjustment literature.

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Chandrayaan-2 and popularization of space science in India

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Chandrayaan 2 Mission is an inspiring space experience for the entire nation. This is an eventful mission that revitalizes scientific, creative power among the young minds of India. This event has created a kind of shared reality in our collective national imagination. Chandrayaan 2 mission further stimulates the essence of scientific communication and popularization of Science among public through various media including popular medium. It is obvious that Indian Space Research Organization (ISRO) has acquired a significant command over self-reliance in technological development. ISRO has been constantly engaged with experimentation, innovation and acquisition of technological capabilities. At present, the public at large is communicating to many-to-many (web 2.0) through different media that we as a nation are serious about science and we do respect and love our scientists and the scientific community. The public is celebrating this mission as a national event in and around Television sets and the cyberspace. Soaring visibility and giving utmost importance to the entire programme has created a sort of mutual pride among all Indians both in side and out side of India. All media, from print to electronic and social networking sites and internet platforms, endlessly publicize image and content about Chandrayan-2. YouTube, Tweeter, Facebook are full of stories, messages and images about and on Chandrayan-2. Both Newspaper and TV are round the clock night and day publishing and transmitting every bit and pieces of information about Chandrayan-2.

A communication opportunity

Chandrayaan 2 Mission is an inspiring space experience for the entire nation. One should not read it as a mission in vain but a sort of vibrancy project in scientific space exploration. We must realize and make sense of the fact that scientific activity is more or less correlated with certainty, uncertainty as well as risk. Risk and uncertainty lead to invention and the quest for newness and truth. Hence one should

not consider it as a defeat rather as taking two steps towards victory. The history of scientific research, again and again tells us the story of triumph in scientific discovery, which is a continuous process of exploration and experimentation. In fact, experimentation is paramount to expansion of new knowledge. This is an eventful mission that revitalizes scientific, creative power among the young minds of India and it also signifies many things to our collectivity. This event has created a kind of shared reality in our col-

lective national imagination. Today the entire nation is not considering it as a failure, rather a celebratory moment of togetherness with our loved scientists. Indians have come together to share the very essence of scientific and technological harmony and imagining India as nation of reverence for science. Now, the collective imagination cultivates and foresees the idea of culture of science and technology, which is the demand of our time. Chandrayaan 2 mission has very strong intrinsic impact on the budding young minds those who are scientific torchbearers of our great nation. It is an undeniable fact that our scientific communities have tried to socialize the young minds through scientific ideas and also inculcated in them sprits to achieve it. Chandrayaan 2 mission further stimulates the essence of scientific communication and popularization of science among public through various medium including individuals and institutions as well as through popular media. It is evident that the support, encouragement and motivation from Prime Minister of India to scientific community can be seen as a major boosting factor towards passion and practice of science and also revitalizes the very idea of scientific temper among the public. It is indeed a meaningful message that will shape culture of science and popularization of scientific ethos among citizens of India. It is worth mentioning that Constitution of India in Part-V deals with the fundamental duties which envisage in Article 51 A (h) to develop the scientific temper, humanism and the spirit of inquiry and reform, which itself stimulates the very idea of science popularization and scientific temper among people of India. In the same section Article 51 A((j), it is stated to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement. It is essential for a nation to disseminate and propagate the rational, logical and scientific culture among the people of the country.

Culture of space science

ISRO has a unbeatable history of conquering space and also marching towards to invade the *gagan*(Sky). ISRO had started its journey on November 21, 1963 and was led by Vikram Sarabhai the legendary visionary who is the father of India's space programme. Till now, ISRO has successfully

commanded and achieved the milestone of fulfilling 105-spacecraft missions including launching of 3 Nano satellites. Starting from Aryabhata to Bhaskara-I&II to Mars orbiter mission space craft to Chandrayaan-I to RISAT-2B to Chandrayaan-2, which have widely covered mission on earth observation, communication, planetary observation, climate and environmental observation, student satellite, navigation, disaster management system and many more except few negligible luckless missions. In addition to spacecraft mission, ISRO victoriously achieved 75-launch missions from SLV-3EI to GSLV-MK-III-M1, Chandrayaan 1&2 mission and 10-student satellite missions. Further, ISRO has successfully accomplished 297 foreign satellites launch missions for 33 countries (as international customers) including major countries like USA, UK, Canada, Japan, Australia, Germany, Israel, Republic of Korea, Singapore and many more. ISRO has also established its credibility as a global player in space research, and has conceivable track record of success in space exploration and experimentation, which is unmatched. Our scientists have been performing commendable work in their field.

ISRO is successfully spreading the culture of science. As Yogender Singh argues 'Culture is unique to human reality. It is manifested in the technological, mental, moral, social, aesthetic and spiritual achievement of humankind' (Singh,2002:25). There is no doubt that our space scientists are one of the leading scientific communities in the world and they are perpetually engage to spread the culture and heritage of space science among public. It is evident that whatever challenges and task they undertake they have achieved it in optimum level, whether the notion of self-reliance or indigenization of technology. In fact, we must recognize that very project (Chandrayaan 2) itself is based on idea of SRISHTI (Science Research and Innovation System for High Technology-led path of India), which is the objective of Science, Technology Innovation policy 2013. We should applaud for our scientists to bring in to being a culture of resource optimization and cost-effective innovation in space research and development. This is a matter of fact that we have achieved considerable attainment with our home-grown technology in terms of application and acquisition. One can also see it as phase of 2.0 cultivation of science as well dissemination of knowledge for

contributing and strengthening science and technological activities in India. It is obvious that Indian Space Research Organization (ISRO) has acquired a significant command over self-reliance in technological development. ISRO has been constantly engaged with experimentation, innovation and acquisition of technological capabilities.

Popularization of space science: A case of Chandrayaan 2

The mediated culture particularly, Media (including social media) has successfully popularized the Chandrayaan 2 mission amongst the general public. One can also recognize that electronic media has played significant role to telecast the event as a celebrated national event. In this context, one can situate Chandrayaan 2 mission successfully opened up new vistas for popularization of science in our national imagination. Owing to the participation of scientists, science institutions and state in a convergence medium has defined new kind of meaning to our collective conscience. At present, the public at large is communicating to many-to-many (web 2.0) through different medium that we as a nation are serious about science and we do respect and love our scientists and the scientific community. The public is celebrating this mission as a national event in and around Television sets and the cyberspace. The entire nation has come together to commemorate this event as a mark of pride of being an Indian. This vibrancy not only popularizes the scientific activity but also catalyzed scientific rhythm.

There is a strong sense of visible and invisible link that has been established in between scientists and public through the mediated communication system. Media does play an unbreakable bond among scientific societies and larger public. Media is directly and indirectly promoting the science education among public. Perpetual media reportage of Chandrayaan-2 launch has become a celebratory event among the public. Soaring visibility and giving utmost importance to the entire programme has created a sort of mutual pride among all Indians both in side and out side of India. All medium from print to electronic and social networking sites and different internet platforms endlessly publicize image and content about Chandrayaan-2. You-Tube, Tweeter, Facebook is full of stories, messages and images

about and on Chandrayaan-2. Both Newspaper and T.V are round the clock night and day publishing and transmitting every bit and pieces of information about Chandrayaan-2. As a result, it has fostered a kind of sensitivity among the public for thinking about science and scientific culture. Media does influence public attitude towards science and public understanding of science has more or less mediated through different form of media, whether, print, television or internet. Similarly, popular media particularly, cinema has a tremendous impact on our public consciousness for instance the Mission Mangal movie has not only depicted the life history of space scientist and scientific process but also influenced people to think differently for our national pride. It indeed envisages idea of culture of scientific temper. One can argue that this film has not only decoded the women role in scientific enterprises but also revitalized effective means of communication among the scientific community and public at large. It is further desirable that different means and medium need to be adopted to institutionalize the pattern of scientific communication among the masses. Media advocacy of science discovery, innovation and development of new knowledge to the public not only popularizes science but also strengthens the very idea of love for science and scientific community.

Conclusion

It is also vital to recognize the contribution of academics, scientists and industry to make the mission possible for space science. There is a direct convergence between the academia including researchers from Universities, IIT's, IISc's to furtherance of research, development and innovation. Similarly, the Indian industry particularly PSU's are capable of catering to the need for scientific developmental project in terms of components and parts for various space programmes including Chandrayaan-2, Chadrayaan-1 and Mars mission etc. It shows the proliferation of scientific tendencies in our nation and also a sort of commitment for self-reliance and indigenization of technological development. Now, we as a nation are fully equipped to take any challenge in global space research. The very essence of spirit and scientific temper will open up new vistas in science arena. At this juncture it is necessary to recognize that science has become the tempo of na-

tional character. Now we as a nation are asserting our pride and aspiration to conquer the sky. Presently, the entire nation as collectivity is completely submerged with the idea of scientific mood with Chandrayaan 2 mission, which is a part and parcel of our national imagination. It is certain that different forms of media has build fascinating relationship with scientific community as well as larger public in term of dissemination of scientific knowledge.

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Communication skills to secure research and travel grants

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Introduction

Traveling, a fascinating part of life, is also a means to build up knowledge and wisdom. Even in the distant past, it was the quest for knowledge that drove Megasthenes, Fa Hien, Huiuen Tsang, Abd-ur Razzak, and others, to undertake painstaking journeys to the ancient Indian terrains. Had it not been for the voyage of Charles Darwin, the foundation theory of evolution would have not developed in the second half of 19th century. Needless to say, Watson's travel to King's college of London that led to one of the great scientific advances of all time is folklore!

In the modern times, the need to gain advanced knowledge and skills is higher than ever. Therefore, attending notable international scientific events is important for those in academia and research: to experience cutting edge research; to acquire science communication skills and creativity; to boost career prospects (Vidyasagar 1998 and Chandrasekar 2016). Stagnancy, in any sphere of life, comes with the tag of 'frog in the well'; it narrows one's ambition. In fact, getting out of comfort zones and facing challenges enable one to inculcate better leadership qualities and develop new interests. For a young scholar, it offers new experiences: to interact with pioneers in the field; to learn advanced techniques; to hear new ideas; to meet other groups working in the area and to establish collaborations; to review our own work; as well as to avail postdoctoral positions (Singh 2010).

Participants from India in international scientific events have been few and far between. Many scholars face quite a few impediments that discourage them from attending scientific events abroad.

The cost of attending such an event is in and around Rs.1-2 lakhs. Although many funding agencies offer support in the form of travel grant, getting it in right time is very challenging. In addition, owing to competition, many a travel grants are difficult to come by, and can be insufficient. Therefore, choosing an appropriate scientific event, science communication skills in drafting an abstract and cover letter, and calculated approach in applying for grant and visa are crucial to get a travel grant successfully and really attending the event. Awareness on various scientific events being held abroad and process to obtain appropriate travel grants can improve the attendance of Indian scholars in such forums.

How to choose a scientific event

Conferences, symposiums, advanced training programmes and workshops, seminars, exchange of personnel with top ranked universities, meeting the Nobel laureates, practical courses and lectures, skill development, field work, and sample collections are the major annual scientific events, each having its own objectives. Journals, science magazines, and web pages are the prime sources of information on such scheduled events.

Specific training, workshops, or collaborative visits to pursue a part of a project or degree programme would suit those who are into the initial years of degree programme. Whereas, conferences and symposiums are ideal for experienced researchers to communicate the findings from absorbing research. Few other factors also need to be considered in choosing these two programmes: reputation and tradition of the event in the field; how well the

themes of the event match with the work being pursued or planned in coming years.

Application to attend a scientific event

Early bird catches the worms: the plan to attend an event abroad must be conceived at least 4-6 months in advance. From a plethora of choices, one has to pinpoint a suitable scientific event. Category of event to be attended is, generally, concluded following a close dialogue with one's Mentor. *Simultaneously, desired prior permission from the employer should also be sought.* Ensuring a valid passport is the first step towards preparation. Preparation of a time table with important dates and deadlines related to event participation is the way to move forward. Since the seats for most of the events are limited, it pays to have a research display grabbing the attention of the organisers. Thus, it is prudent to submit a quality abstract and a cover letter.

Abstract writing

Although, an abstract is a digest of the paper that one wishes to unfold at a scientific event, its scope extends far beyond that. In addition to the disclosed research findings, it also speaks a lot about one's personality. While tediously going through the selection process of the abstract, an organiser would also tend to read between the lines. Especially, one's passion, vision, the professional approach in drafting the abstract, and the importance shown for the event would come under the scrutiny.

A well drafted abstract straight away tells about the endorsed original research; why it adds value to the event, and also to current discussion and debate in the field. Obviously, it is a herculean task to brief entire research, findings and arguments into a few lines. Thus, an abstract must have sufficient enough elements, usually in 200-300 words, to keep the reader engrossed. It should depict big picture of the problem or widely debated topic in the field, gap in the literature, a hypothesis driven method(s) employed to solve the problem, and how the findings fill the gap, and a strong concluding statement in a concise style. Short, no more than 10-12 words, catchy title that describes the subject matter, can draw the attention of the readers.

Drafting the cover letter

A cover letter or statement of purpose or motivational letter plays an important role to project one-self among thousands of applicants, and to get acceptance from the reviewers, event organisers or funding agencies. Structurally, it should have a coherent build up and smooth expansion. Its objective is to express why the applicant is deserving a grant, and, at the same time, why this event is the appropriate one for the aspirant.

The opening sentence of the letter should introduce oneself, followed by basic information on present role, and expression of keen interest to attend the notified event. The trailing paragraph should highlight one's research topic, sub area of work, and what the research is about, in general terms. Mostly the theme of the scientific event would be an outstanding issue in the field. If one can fit one's research into the theme, it would largely turn the table in favour of the applicant being selected. By briefing about the benefits of the research, in a clear and appealing manner, one can convince the event organiser that the audience, in general, would be benefitted from the disclosure of the work.

Training and workshops are the calculated investments that are meant to be paid off in the future. Mostly, the selection criteria for these programmes are the applicant's academic excellence, enthusiasm and real interest in that area of research. Due to this very reason, one's achievements, including top rank positions in examinations, awards, scientific publications, summer internships, important findings, involvement in science societies, if any, and benefit of attending the events etc. should be evident in the application.

Applying for a grant

At appropriate time, one has to pay few event participation related fees: registration fee; visa fee; air fare; accommodation; meals; social events and conducted visits (optional). Also, a certain amount, for preparation of poster or oral presentation, is to be allocated separately. Among these, registration fee is to be paid immediately after receiving the acceptance letter from the event organiser. It is advantageous to go for early bird registration, or to have relevant membership to claim fee concession.

Several national and international non-profit government and private establishments, philanthropists, associations, foundations, societies and Journals provide travel grants, through schemes, to support passionate and exceptional researchers. Travel grants are available in almost all disciplines; few are listed in Table 1. As funding agencies reimburse only the actual expenditure under specific heads, it is advisable to have the budget foreseen. Some event organizers, upon request while submitting the abstract, offer waiver of registration fee; they may also provide funding or make possible arrangement for accommodation, etc.

It is a task to select an appropriate grant by analysing the schemes, its funding coverage, maximum limit, eligibility, payment schedule, and feasibility of combining schemes to one's benefit. Certain travel grants are allocated only for young women researchers.

After preparing a shortlist of a few suitable grants, application is to be made with necessary documents online; it is to be followed by submitting hard copies by post, if required. Documents, as required by the funding agencies, include acceptance letter, submitted abstract, registration certificate, employer's no objection certificate, quotation for air ticket, cover letter, etc. Some funding agencies like those in India require one to travel only by the national carrier. Exceptions to avail the services of other airlines may be permitted only under specific conditions. There are provisions to block tickets, free of cost, with travel agencies. This will avoid the instances of non-availability of tickets at a later stage.

It may take 4-6 weeks to receive the approval of travel grant. Once the approval is received, an application is to be submitted for contingency travel allowance, if any, from the employer. It may cover the heads not covered by funding agencies. If multiple offers were received, other agencies should be intimated to enable them to fund some other applicant.

Visa application

Visa is issued by the concerned Embassy located in the country of applicant. It is issued in the form of a sticker or stamp on passport, if applications with supporting documents are in order. However, visa

may be refused when applicant fails to meet certain criteria notified under the emigration rules: no valid document to show the reason for the journey; lack of adequate finance; no travel arrangements-transport and lodging; approaching expiry date of passport etc.

By consulting the Embassy or Visa Facilitation Services (VFS), or checking the websites of respective authorities, the applicant can confirm the required category of Visa— student, tourist, business, etc. The USA, and most European countries warrant travel insurance and health certificates-to cover accidents and health issues during travel. It is mandatory to secure specified insurances and book accommodation by paying in advance, before applying for visa. Visa application process is initiated by submitting documents with a formal cover letter addressed to the consulate of the host country along with filled visa application form. Documents include bank statement that gives evidence for required finance, registration and invitation letter from organizer, travel and health insurance, itinerary, and accommodation details with confirmed booking, original passport, visa fees, etc. As one may have to pay for goods and services, desired foreign currency, and a multicurrency card may be secured, from a nationalised bank or authorised agency. Although, different simple visa options are available where less documentation may be required to visit abroad, but it is advisable to seek conference visa or alike for attending such events.

Preparation for the event

It requires science communication skills to make presence felt at the event. Contents of the poster or oral presentation must be precise and attractive. It should be edited and proof read multiple times to be succinct and striking. This is critical to secure awards like best poster, outstanding student, best paper, etc. Brainstorming of potential questions that might be asked would keep one at ease. Also, a short presentation, bio-data and published papers, etc., are to be carried to explain research work to someone, or to seek research positions. Most importantly, ensure that, as an ambassador representing the nation at the event, attendee's code of conduct is of paramount importance.

All original bills of expenses related to scien-

tific event must be kept safely. Upon returning, one has to apply for reimbursement with all necessary documents and bills. Scanned copy of the same may be preserved.

Conclusion

Attending notable international scientific events is important for a scholar to understand the quality of global research, and to boost career prospects. To support the researchers in events and travel related application process, a well functional science administration cell with advisors and science communication experts ought to be set up at institutional level. The cell should have an approved policy in place for international exposure of scholars; it should be complemented with simple and easy to follow standard operating procedures. Experience to have successfully applied for travel grants would become handy for a scholar to apply and get highly competitive international research grants later in the career. A right academic investment would, certainly, be reflected in the knowledge economy of the nation, in years to come. There has to be a participatory approach, only attending is not sufficient. It also means that one should be present in all sessions, ask relevant questions, engage in interactions with other participants, experts, organizers, officials, etc., during tea and meal time and social gatherings, i.e. reception, conference dinner, etc. The researchers must also harness the opportunity of participation in international events for extracting the best for themselves, their institutions and the country!

Table 1: Major national and international travel grants

S. No.	Funding agency	Scheme	Website
1	American Association for Cancer Research (AACR)	AACR travel grants: to attend AACR annual meeting; Global scholar-in-training awards; Woman in cancer research scholar awards	http://www.aacr.org
2	American Chemical Society (ACS)	MEDI travel grants to present paper at ACS meeting.	https://www.acs.org

3	American Physical Society (APS) and The Indo-U.S. Science and Technology Forum (IUSSTF)	U.S.-India travel grant program to exchange physicists, students pursuing Ph.D. in Physics, and postdocs.	https://www.aps.org
4	The Boehringer Ingelheim Fonds	Grants for basic biomedical researchers for a short-term research stay or attend a practical course of up to 3 months.	https://www.bifonds.de
5	Campus France-India (Charpak)	Charpak exchange program: For students from all fields and streams. Charpak research internship program: For all students of economics, engineering and natural science to pursue training at a French laboratory.	http://www.inde.campus-france.org
6	The Company of Biologists' journals – Development, Journal of Cell Science, Journal of Experimental Biology and Disease Models & Mechanisms.	Travelling Fellowships for graduate students and post-doctoral researchers to make collaborative visits to other laboratories	http://www.biologists.com
7	Department of Science and Technology (DST)-DFG	DST-DFG awards for participation in the Meeting of Nobel Laureates and students, Lindau, Germany.	http://www.dst.gov.in
8	DAAD	DAAD research grants for foreign doctoral candidates and young academics and scientists to carry out research or continue their education in Germany.	https://www.daad.de
9	Department of Biotechnology (DBT), Indo-US Science and Technology Forum (IUSSTF) and WINStep Forward	Khorana Program for Indian students to undertake research at University of Wisconsin-Madison and partner universities in summer for a period of 10 weeks.	http://iusstf.org
10	DST and IUSSTF	Fellowship for Indian women in Science, Technology, Engineering, Mathematics and Medicine to undertake collaborative research in premier institutions in U.S.A.	http://serb.gov.in
11	DBT	Travel support for attending international conference, seminar or symposia.	http://www.dbtctep.gov.in/

12	DBT-CREST (Cutting-Edge Research Enhancement and Scientific Training) Awards	Fellowships to researchers for advanced scientific training abroad.	http://www.dbtindia.nic.in
13	EMBO	Travel grants to attend EMBO workshops, EMBO practical courses, EMBO or FEBS lecture courses, EMBO or EMBL symposia.	http://www.embo.org
14	eLIFE	The eLife travel grants for early career researchers who have authored or co-authored a research paper at eLife.	https://elifesciences.org
15	European Commission	Erasmus Mundus scheme: Exchange programmes with prestigious universities in Europe for students at the Bachelors or Master's or Doctoral degree level.	http://www.india4eu.eu
16	Federation of American Societies for Experimental Biology- Science Research Conferences	FASEB-SRC travel awards	http://faseb.org
17	Indian Council of Medical Research (ICMR), Government of India	Travel grant for presenting a research paper or chairing a session or delivering a keynote address in a scientific event abroad or to attend short-term schools, workshops, courses. etc.	http://www.icmr.nic.in
18	Microbiology Society	Grants for members to present work at scientific or to attend a short course or training related to microbiology.	https://microbiology-society.org
19	Nature	Nature travel grants for conferees from developing countries to attend Gordon Research Conferences (GRCs).	http://www.nature.com
20	Newton Bhabha Fund,	An UK-India government ministerial agreement for building skills and capacity through training and people exchanges.	https://www.britishcouncil.in

21	R&D Systems	Bio-Techne travel grants to attend scientific meetings and conferences.	https://www.rndsistemas.com
22	Ratan Tata Trust and Navajbai Ratan Tata Trust.	Partial travel assistance to enhance their skills through training and workshops.	http://www.tatatrusts.org
23	Royal Society of Chemistry	Travel grants for PhD students and early career scientists.	http://www.rsc.org
24	Science and Engineering Research Board (SERB), DST	Travel support to attend a scientific event abroad or for training and short-term schools, workshops or courses.	http://serb.gov.in
25	Society for Integrative and Comparative Biology	Travel grant to visit research laboratories, museums, or field sites, learn specialized techniques or to use unique equipment or collections.	http://sicb.org
26	Society for Developmental Biology (SDB)	SDB international scholarships for students, postdocs, and faculty.	http://www.sdbonline.org
27	The United States – India Educational Foundation (USIEF)	Fellowships for short-term study programs.	http://www.usief.org.in
28	USIEF	Fulbright-Nehru fellowships in the fields of agricultural sciences; bioengineering; neurosciences etc.	http://www.usief.org.in

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Media planning for communicating science

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Nations and societies across the world have set up many prominent institutions of education which have been developing a huge repository of knowledge through their research activities in all the fields like agriculture, medicine, technology, humanities, arts and social sciences. Some of these knowledge contents are of high caliber like Higgs Boson, large Hadron collider, Mars mission or Mangalayan, etc. These contents may not be directly beneficial or linked to the common people, although they have the potential to attracting the masses at large. On the other hand, some of these research findings such as medicine or vaccine for various common and major diseases, earthquake resistant house-building style, fuel efficiency in motor vehicles, etc., could be of direct benefit to the masses. All these knowledge contents need to be disseminated to the people for better usage so that they can utilize them to improvise their living standards. Thus, the role of communication is very important in communicating these contents to the people. In this regard the need of media assumes vital importance. This is because, unless the right kind of medium is used, these efforts would not be able to ensure the optimum level of desired benefits and the proper purpose would not be effectively served. Hence, choosing the potential media and a judicious media planning are of high significance for the success of any communication effort, more so for science communication.

Concept

“Communication is not only a system of information, but also an integral part of education and development” - McBride Commission Report (1978). Communication is the science and art of sharing in-

formation in different areas and under various circumstances. This is one of the major driving forces which acts as a connecting line for all human beings and societies across the world. Because of its importance it is even termed as the ‘fourth basic human need’ nowadays. In this field the communicator has to be clear of the following aspects:

- Status of the Target Audience of the write up or programme that one is going to write or broadcast,
- What and how is it to be written, edited and printed in newspaper or magazine or broadcast through TV or radio,
- Whether the source is authentic, because many a times someone may try making tall claims about inventing or innovating something which may turn out to be a hoax later on,
- What kind of simple language the communicator would use for disseminating the information to the people,
- How to create as well as sustain an avid interest of the readers or target audience in the written piece or programme,

“By bridging the gap between science and society the benefits of scientific knowledge can be used to improve daily lives, empower people and find solutions to global, regional and local challenges. In order to strengthen communication between science and society it is important that efforts made in bridging the gap do not go unnoticed. Popularizing science needs to be championed, including all activities that communicate scientific knowledge and scientific methods to the public outside the formal classroom settings and promotes public understand-

ing of the history of science,” United Nations Educational, Scientific and Cultural Organization (Science Policy and capacity Building, UNESCO website).

Professional communicators

It is a fact that researchers and scientists engaged in these kinds of studies usually are not expected to be proficient in speaking and writing in a language that the general people would understand. This is because they are much more familiar and proficient with the language that their fellow scientists and researchers would understand.

Here emerges the role of the ‘professional communicators’, these are the people who would be highly proficient in understanding the basic concepts of those findings in the laboratories. And they would be able to translate the same into a simple language that any literate person can understand if published in the print media or which can be understood by any person even without the benefit of a formal education if broadcast on TV or radio or disseminated in the form of a documentary or a film.

What is media

Media is the carrier of any message to the receivers, intended or otherwise’. It signifies that it is a means of carrying your messages (here scientific messages) to the person or audience you intend it to be aimed at. Like the different kinds of communication, various types of media are available. These include – traditional and folk media, conventional mass media (print, electronic – Radio / TV / Films) and the latest development is the new media based on the internet platforms. All the possible and potential media for the future are important for furthering the cause of science communication at different levels depending upon the situation and the mandate for doing so. Ours is a country with several major natural advantages over the decades. There are more than one lakh newspapers and journals registered with the Registrar of Newspapers, India. This is supplemented by the facts that we are also served with 800+ TV channels including news and current affairs, entertainment, infotainment, etc. Further, the film industry of the country boasts of producing about 700 – 800 films on an average every year. Hence, this scenario throws open an immense potential for employing all

relevant media in general for spreading messages of science.

Conventional mass media

This is rather a new development that mass media are being more and more termed as ‘conventional’ media following the advent of the digital media which has made a major stride in the recent times. Broadly this includes print – newspapers, magazines, books, booklets, manuals, etc., and electronic – radio / TV / cinema. Let’s consider a few examples to illustrate the development.

Films

Feature films including science fiction, documentary, etc., are also very effective for science communication. We can cite examples of sci-fi films like Jurassic Park series, 20,000 Leagues Under the Sea (based on Jules Verne’s novel) to those produced in our country also dealing with some simple but important issues in our life including taboos, hygienic lifestyle, role of human care, medical sciences, etc.

Television

In the world of television again, there are quite a few ideal examples to be cited. The popular TV channels like – Nat Geo, Planet Earth are providing good service in this direction. These, and many other such TV channels offer general entertainment and also carrying science programmes. In the late 1990s, Doordarshan broadcast several episodes of ‘Turning Point’ that was a milestone in the history of science communication in the country. This was a weekly science magazine programme conceptualized and visualized by the reputed science communicators. Noted scientist Prof. Yash Pal and Bollywood personality Girish Karnad presented the serial on screen. It was highly successful science communication programme. Another programme titled ‘Imagine Science’ by film personality Mukesh Bhatt also needs mention for its quality in the late 1990s.

The reputed journal Indian Journal of Science Communication in its January-June, 2002 issue (Volume 1, No. 1) published a review of the programme which stated that this highly-popular science education programme had five segments in

each of its episode such as environment, astronomy, recent breakthroughs, milestones, health and medical sciences.

Doordarshan also telecast a highly popular and successful programme on health communication called 'Kalyani'. All the episodes of this programme would select a specific health issue with two or three experienced medical professionals in those fields in the local TV studio. After an introduction and explanation of various nitty gritty about that particular health problem in the respective regional language for common man's understanding, questions were received from patients of particular problems, and solutions and suggestions given by experts.

Radio

During the 1960-70s, green revolution was sweeping across the country under leadership of Dr. M.S. Swaminathan and Radio provided a major fillip with its formidable presence of that era. It was the most popular medium for all purposes of communication. Hence, during those years many of the high-yielding paddy and wheat varieties were popularly known as Radio Rice or Radio Wheat! One can imagine the significance of the media in popularizing science amongst people.

Print

In the field of print media, many newspapers, magazines, journals are also publishing considerable number of contents including news, special features, articles on different aspects of science and related developments. Prominent among them include The Hindu which has a dedicated space of two pages every week for science and agriculture.

Special media

Climate Action Special - It needs to be mentioned here that when we are searching for the right kind of media for spreading messages of science, an innovative person would be able to find out and utilize even highly innovative medium for the purpose. There is a fine example of this aspect. The Dept. of Science and Technology, Government of India launched a highly-innovative programme towards popularizing science in an informal manner. Though this was

primarily aimed at children, it was also open for anyone whosoever interested in it. It was named as Science Express Climate Action Special (SECAS). Other agencies involved with this unique scheme included - Ministry of Environment and Forest, Dept. of Biotechnology, Wildlife Institute of India (WII), Dehradun and Vikram Sarabhai Community Science Centre (VSCSC), Ahmedabad.

This author himself visited the train while it was on a tour to Assam in April 2017 at Rangapara Northern railway station in Sonitpur district. The entire arrangements were highly-satisfactory. People of any age could visit and learn a lot of things from the posters, prototype machines, do-it-yourself fun-filled activities. Overall it was an enlightening and thrilling experience.

Community media

Community radio is an active example of this kind of medium - a non-profit organization consisting of members of the community and its programming is based on community access and participation.

The UNESCO declares, "Community media, whether broadcast or online, are crucial to ensuring media pluralism and freedom of expression, and are an indicator of a healthy democratic society. As an alternative medium to public and commercial media, as well as social media, they are characterized by their accountability to, and participation of, the communities they serve. They have a greater focus on local issues of concern and facilitate public platforms for debate and discussion."

The major advantage of using community media for science communication is that the needs of the community members can be very precisely pinpointed so that there is no mismatch between the requirements of the audience and the contents provided by the people in running the media. So, we can say that community media have been used for communicating scientific developments about enhancing our living standards in all walks of life.

New media

The advent of 'new media' which is based on the internet platforms has brought about enormous potential for dissemination of messages in any field including science communication.

India boasted of about 1.2 billion cellphone connections by September, 2019, more than 625 million broadband users, according to Telecom Regulatory Authority of India (TRAI). The digital growth is really something to be taken seriously into account. Out of this huge segment of the population, a majority shall be having 'internet' connection in their mobile phones. It is becoming highly convenient for reaching them for the purpose of passing on information about new developments in healthcare or possible hazard from unscientific use of gadgets including cellphones and what not.

This medium can also be properly utilized for sending information and contents from the point of scientific developments with a potential for improving the standard of living in many ways.

Media planning

Media planning is important for science communication. The dictionary meaning of the term is - the process of identifying and selecting media outlets - mainly newspapers, magazines, websites, TV and radio, and outdoor placement - in which to place 'paid advertisements', etc. A right kind of media mix to reach out to the maximum number of the target audience is of paramount.

It is the science communicator's job to develop a coordinated plan for a particular communicate to arrive at the peoples' doorsteps. The more the communicator can optimize, it will be convenient to reach the largest number of people, the better are the possibilities of seeing results.

Media planning is necessary because one particular medium may not fit into all the requirements of every segment of the society. Therefore, all the available media need to be utilized in a wisely so that the impact can be maximized. This process can be utilized for taking the messages of science to the masses. Even for getting the optimum benefit of coverage of the targeted people we should have a proper 'media planning' in place before embarking on the path to communicate contents of scientific developments to the intended audiences.

Conclusion

The well-established media include convention-

al mass media, new media, etc., which are highly popular, useful and effective for facilitating dissemination of contents and news items of science. However, an important point to be noted here is that depending upon the circumstances of the society or a country or region, any instrument or tool can be utilized as a medium for this purpose. For example, it is seen that a train was used for educating children in the simple and complex issues of scientific developments. Further, comics, science fiction, cartoons or scientoons are also other means of spreading awareness or educating people. Mass media including print (newspapers, magazines, books, posters), electronic media (Radio, TV, films, documentaries, etc.) are strong and highly-useful for science communication which can reach the target audience within the shortest timespan. This is why they are also called as 'Magic Multipliers' for re-producing messages innumerable times in a very short span. On the other hand, community media and new media, etc., have their own significance for a country like India. It would be ideal if a judicious combination of all these media and any new development in this regard can be arrived at. And to utilize them for bringing out the maximum efficacy. We need to look at all media available to us and exercise them in a proper manner. This can be done by going for a comprehensive media planning to take the best advantage out of all of them in the near and distant future. Also, the concept of media planning was discussed which needs to be studied properly while taking up any such endeavour. Nowadays, an information overflow through a media multitude is being experienced. To make an impact we need to pick up only those media that have the potential of reaching out to the maximum possible number of target audiences in the most effective manner.

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12th Science Communicators' Meet

Taking science to the people: Scientists and journalists must come closer



Inaugural Ceremony: Prof. P.P. Mathur, General Secretary (Scientific Activities) ISCA; Dr. Nisha Mendiratta, Head & Advisor, NCSTC, Department of Science & Technology; Shri Ravi Shankar Prasad, Union Minister for Law & Justice and Electronics & Information Technology; Shri Ashok Mittal, Chancellor, Lovely Professional University; Shri Shwait Malik, Member of Parliament, Rajya Sabha and Shri Som Parkash, MLA, Phagwara (L-R)

Science Communicators' Meet, an event catalyzed and supported by the National Council for Science & Technology Communication (NCSTC), Department of Science & Technology, Government of India, with an objective to promoting research and communicating the basic concepts of science amongst the common people was held as part of 106th Indian Science Congress during January 5-6, 2019. The event was jointly hosted by Indian Science Congress Association and Lovely Professional

University, Jalandhar, Punjab.

The meet was inaugurated by Ravi Shankar Prasad, Union Minister for Electronics & Information Technology and Law & Justice on January 5, 2019 and was attended by a huge gathering of more than 2500 scientists, science communicators, media personnel, faculty and students.

While inaugurating the Meet, Hon'ble Minister Shri Ravi Shankar Prasad said that India is now moving forward in terms of scientific publications

and patent filing which are considered to be the most prominent mediums of science communication. He was addressing the gathering as the Chief Guest. Scientists and journalist must come closer for improving science communication, he said. Taking a simple equation “IT+IT=IT”, he said that it is India’s Talent (IT) and Information Technology (IT) that will jointly build India of Tomorrow (IT). Shri Prasad also showcased how digital India is contributing towards the growth of the nation in almost all dimensions of governance.

Speaking in the inaugural ceremony, Guest of Honor Dr. Nisha Mendiratta, Head & Advisor, NCSTC, Department of Science & Technology highlighted the objectives of the Science Communicators’ Meet and initiatives taken by NCSTC to popularize science among the masses. On this occasion, the other dignitaries present on the dais who in their valuable addresses highlighted the importance and challenges of science communications included Shwait Malik, Member of Parliament, Rajya Sabha; Ashok Mittal, Chancellor, Lovely Professional University; Dr Manoj Kumar Chakrabarti, General President, ISCA; Prof. P.P. Mathur, General Secretary (Scientific Activities), ISCA and Prof. Gangadhar, General Secretary (Membership Affairs) ISCA.

Under the broad umbrella of “Taking Science to the People”, very interesting and thought provoking invited talks were delivered by renowned science journalists and scientists.



Pallava Bagla, Photo-Journalist & Science Editor, NDTV & Correspondent Science delivers talk

Mr. Pallava Bagla, Photo Journalist & Science Editor, NDTV & Correspondent *Science Magazine* delivered Invited talk on “*Taking Science to the Peo-*

ple: Joys and Sorrows of Reporting Indian Science & Technology”. He said India is country of contrasts where on one end we reached the Moon and on the other millions of people are deprived of scientific wisdom and bound to follow age old superstitious practices. Reporting such contrasting events makes science reporting very interesting and challenging too.



Dr. Basab Chaudhuri, Vice Chancellor, West Bengal State University delivers talk

Prof. Basab Chaudhuri, Vice Chancellor, West Bengal State University, Barasat, West Bengal, highlighted the issues of greenhouse gas emission and suggested steps that are being taken to arrest climate change in his invited talk on “*Green House Gas Emissions: Choice is Yours*”. He further added that the earth has already reached the edge and corrective actions need to be taken immediately to avoid consequences. Thus, it is everyone’s responsibility to save Earth from the global catastrophe of climate change.

Dr. Manoj Kumar Patariya, Director, National Institute of Science Communication and Information Resources (CSIR-NISCAIR) through very interesting illustrations delivered an invited talk on “*Science Coverage and Ethics: Analyzing Issues of Fake News and Paid News*”. He said, “in the recent times the trend of mass media and social media seems to have deviated from reliable reporting and has created a kind of illusion over the authenticity of content”. He emphasized on the ways and means to keep away from propaganda of false science news and communicate true science, including significance of ethics in science communication.



Prof. Manoj Kumar Patariya, Director, National Institute of Science Communication and Information Resources (CSIR-NISCAIR) delivers talk

Dr. V. Ramgopal Rao, Director, Indian Institute of Technology, Delhi delivered invited talk on “*Connecting Academic R&D with Product Innovation: A few case studies and a way forward*”. He highlighted the fact that India ranks very poorly on the Global Innovation Index (GII), and the research undertaken by Indian academic institutions, whether public or private, has hardly resulted in any major technological breakthrough of significant commercial value. Further he discussed the changing scenario for the product innovation in Indian academics and R&D institutions.



Dr. V. Ramgopal Rao, Director, Indian Institute of Technology, Delhi delivers talk

Some 32 science communicators selected by Indian Science Congress Association from ISCA chapters spread all over India made the presentations of their contemporary research work in four technical ses-

sions spread over two days. In addition to 17 oral presentations, 15 poster presentations were there on contemporary issues in science and technology communication.

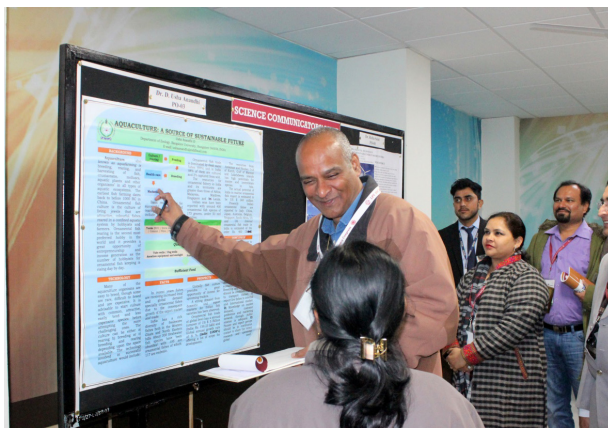


Dr. Rajat Sandhir, Professor, Department of Bio-Chemistry, Panjab University, Chandigarh chairs Technical Session-I

Some of the prominent issues discussed were ART therapy of human immune-deficiency virus type (HIV-1); Eco-rejuvenation technology for the development of biodiversity on degraded land for ecological sustainability; Exploring the efficacy of Nano and Vermi technology to enhance the soil fertility for food security and sustainable agriculture; Tannery effluent treatment for removing hexa-valent chromium in water; Onco-lytic Viro-therapy for treating the cancer-affected patients; Aquaculture; Vegetation quantity in a part of Langol reserved forest; Development of Cist effective ecofriendly self-healing concrete for construction; application of green chemistry in Pharmaceutical sciences and very insightful deliberation were held on use of technology & contemporary social media to disseminate scientific research and temperament to the society at large.

The discussions and deliberations of the two days meet were culminated at the Valedictory Session held on January 06, 2019. Speaking on the occasion Chief Guest of the session Ashok Mittal, Chancellor, Lovely Professional University highlighted the importance of communication for every science student and scientists. He also made an announcement about the accessibility of research labs and facilities at Lovely Professional University to all the researchers across the country for collabora-

tive research. The conjuncture of syllabus and assignments with the practical assignments was also highlighted.



Dr. R. Bhaskar, Professor, Guru Jambheshwar University of Science & Technology, Hisar, Haryana chairs Technical Session-II

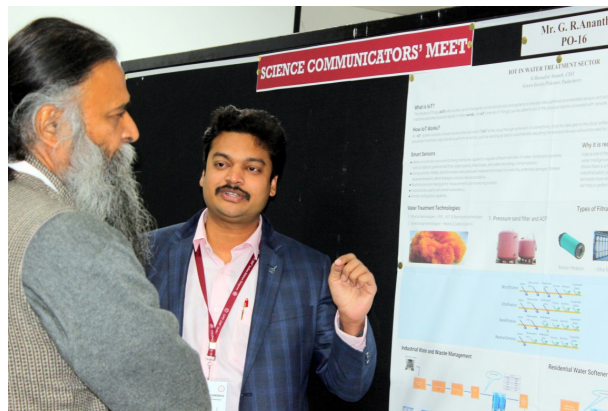
The Guest of Honor, Shri. Rajinder Singh, Scientist D, NCSTC, Department of Science & Technology emphasized the active role of NCSTC in promotion of science communication and taking the benefits of science to the common man in all parts of the country.



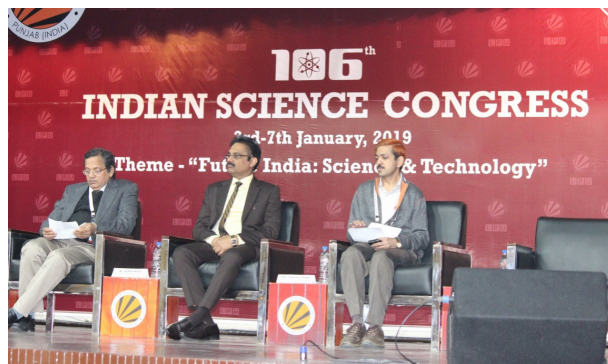
Dr. Ramesh Kanwar, Vice Chancellor, Lovely Professional University felicitating the Chair of Technical Session-III Prof. Hirendra N. Gosh, Director & Scientist G, Institute of Nano Science & Technology

In the Presidential Address, Dr. Manoj Kumar Chakrabarti iterated the need of communicating science to the masses citing the cases, such as drug

discovery for cholera treatment. He exhorted that rather than keeping scientific research findings & recommendations on the library shelves and laboratories, an effort must be made to communicate it to the policymakers, industry, decision makers as well as the general public.



Dr. Arvind, Professor, Indian Institute of Science Education & Research, Mohali evaluating the presentations in Technical Session-IV



Valedictory Session of 12th Science Communicators' Meet

The 12th Vigyan Sancharak Sammelan (Science Communicators' Meet) concluded with vote of thanks by Dr. Amit Krishna De, Executive Secretary, Indian Science Congress Association. Dr. Amit Krishna De apart from thanking everyone involved in Science Communicators' Meet also highlighted the need for having a specialized curriculum which can impart skills of science communication amongst scientists. The event was widely covered by all prominent media in the country.

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 2. Sharma R.D., *Communication of science and technology in ancient India*, *Indian Journal of Science Communication*, 1(1), pp 3-7, 2002. The sources such as unpublished papers and personal communications should also be included in the references in the following form:
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A robotic glider with a microphone can capture the sounds from ships, whales and underwater explosions.

It can help us in improving the mapping of the sound map of ocean noise and marine animals.

Hai Human,
If you can listen through this robot, Kindly note our humble request.
DON'T POLLUTE THE OCEAN.

vkmultiya@gmail.com
Dec 10, 2K19

Reference: Haxel JH et al. (2019) Ocean sound levels in the northeast Pacific recorded from an autonomous underwater glider. PLoS ONE 14(11): e0225325.

Worry of a pregnant elephant ...!

Congratulations!
Your preg test is +

But Dr.!
Do you think the baby will survive in the era of electrocution, deforestation, poaching & many other threats?

Gynaecologist

Preg +

vkmultiya@gmail.com
Oct 31, 2019

Odisha lost 179 elephants to electrocution since 1998

Female elephant dies from electrocution in Odisha on 27 Oct 2019

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