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Dr. Irving Engelson, President, IEEE EMS

President's Corner

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Volunteering is Better than Ice-cream

The IEEE Division VI Nominating Committee selected me as a candidate for Division VI Director-elect, and my name will be listed on the IEEE September ballot. During the nominating process the Nominating Committee asked that I answer two questions: Do I agree to be a candidate, and if elected will I serve?

In almost all of my columns I have advocated that IEEE members be active and volunteer for various positions, but recently I have been reflecting on why people volunteer. In my case, I concluded, it has to do with ice-cream.

Let me explain---
I was raised in a small town in a poor family. We lived in a neighborhood where almost all families were poor, so as a small child I saw little difference between my existence and that of other children my age. My parents made sure that I had the things that I needed, and on very special occasions I earned a treat - an ice-cream cone. When the ice-cream wagon came around, if I was a "good boy," my mother bought me an ice-cream cone. I waited on line with the other children and when we had all been served, we proudly marched like soldiers in formation with our ice-cream cones in hand.

I learned that I had to earn an ice-cream cone by doing good deeds. As I matured, I came to view performing the good deed as a rewarding activity, even without being treated to an ice-cream. I learned that the reward and pleasure are in performing the deed itself. This is why I volunteer and encourage others to as well.

Volunteering is better than ice-cream, and much less fattening. Now that I can afford to buy all the ice-cream I want, I cannot afford all the calories that come with it. So when the Nominations Committee asked if I would be willing to be a candidate for Division VI Director-elect, and to serve if elected, I of course, said "yes", because volunteering for the IEEE is a personally rewarding activity where I will be able to continue serving our members.

In my next message, I may address Division VI, and what the role is of a division director. Please make sure to vote in the upcoming elections, as your vote helps to preserve the democratic nature of IEEE. Read the statements of all of the candidates, their biographies and their IEEE activity histories; and vote for whichever candidate you feel is most deserving. Voting affirms your ongoing participation in IEEE and its activities. In addition to voting, please consider volunteering your time and expertise towards a position in IEEE in general, and EMS in particular. You will be rewarded.

In This Issue ...

General Principles for Forming a Not-for-Profit Membership Organization

Irving Engelson, Ph.D.
President, EMS

Preamble

These are general guiding principles rather than a set of rules to be followed precisely. They are intended to guide whoever is tasked with developing a business plan that is consistent with these principles, as implied in Principle #2. The sequence of the principles is not important as they are all interconnected and no one statement is more important than any other statement. They do have three (A, B, and C) differing intentions and objectives.

A. The Need Category
Principle #1 identifies a need, describes the need, and the client/customer group that has this need.

B. The Accomplishment Category
Principle #2 requires developing the details of how to accomplish the objective(s) based on these principles.

C. Resource Availability and Allocation Categories
Principles #3, 4 and 5 focus on resource availability and allocation. This is a very important category as studies show that failure usually comes from lack of effort or lack of resources and not for lack of need (#1) or lack of plans to meet the need (#2).

The Principles

1. Identify a group of individuals with a common set of needs who are willing to pursue their common interest.
2. Develop mission, vision, and value statements with a strategy and operational plan to fulfill them.
3. Assure the availability of sufficient funds to sustain the quality and quantity of organizational programs and governance.
4. Produce a product or service that meets the common needs of the intended constituency.
5. Assure the availability of qualified volunteers, and provide them opportunities for satisfaction and commitment.

Principle 1: Identify a group of individuals with a common set of needs who are willing to pursue their common interest.

Principle 1 states that to form or to continue a membership based organization a group of individuals has to be identified who have common needs and interests and are willing to join such a society. Two questions need to be clarified. (a) What is the minimum number of individuals needed for a viable organization, and (b) How can one identify that their interests form a common base for such membership.

a. Critical Membership Mass. There is no sure way to determine the critical membership mass for a viable society. But certain heuristic approaches can help in the determination. A society needs dedicated volunteers to govern and run the organization. Indications are that depending on the commitment of members to invest valuable volunteer time for their society, one should not expect more that 1%-5% of involvement. An assumption of 2% is probably a reasonable expectation.

The officers of a society usually include a President, Secretary, Treasurer, Membership Chair, Publications Chair and Conference Chair, and four volunteers-at-large for various ad hoc functions. Thus, a probable minimum of ten volunteer members is needed to provide for basic governance. Other functions can be performed by additional volunteers, hired staff, or a combination. Using ten volunteers as the minimum needed, and a 2% involvement rate, one can conclude that a viable society needs at a minimum 500 members. But if we use the lower involvement rate of 1%, we conclude that the minimum membership should be 1000.

The conclusion here is that with 500 members a provisional society can be formed, with the expectation that during the provisional period, of say three years, it will grow to 1000 members and only then be removed from the designation as provisional and given regular status.

b. Common Base of Interests and Needs. There are seldom two individuals who have the same interests and dedication. How can we expect to meet the needs of 1000 or more members unless we can assure some cohesiveness in their needs and interests? Let's take tailoring as an example. Suppose we wanted to organize a society of tailors. And suppose we identified 1000 tailors who are willing to join the society. A survey could be conducted to determine what kind of tailoring they are interested in. Let's assume that four distinct areas are identified. Some may be specializing in suits, some in coats, others in shirts, and still others in theatrical costumes. Each of these is a separate subspecialty of tailoring, and requires different services from a Society of Tailors. So by examining the distribution of potential members by tailoring specialty one can decide what the core of the society should be. And here the old 80-20 rule may be a good start. Ideally we should have a minimum 80% of the membership interested in a particular area of tailoring, such as suits.

We now have a core interest for the society that can be defined by a Field of Interest (FOI), namely Men's Suits. But the other 20% of members can participate in activities, without dis-

torting the core interests of the society. If on the other hand the interests are equally divided, each with 25%, there is no identifiable core of mutual interests, and the cohesiveness of the society is compromised. Existing societies have to monitor the changes of interest of their membership and adjust their functions to match the shifts in core interests of its members. A society without a solid core of interests will experience major "containment-leakage" problems, as described below.

I am coining the phrase containment-leakage from my early studies of quantum mechanics. In quantum mechanics we study what is known as a finite quantum well. It is a type of container in which a particle, such as an electron, when confined in the well exhibits an interesting phenomenon that part of it leaks out and therefore exists outside of the well, or container. As long as the container wall is finite in height, part of the particle will exist outside the container.

So how can we tell if the particle is in the container or outside of it? The answer according the Schrödinger equation, in an over simplified way is that if a large probability percentage suggests that it is in the container, then the particle is in the container. The consequences of this conclusion are very profound and applicable, in a conceptual sense, to the FOI of a society. The membership of a society and the society activities may start with a narrow and well defined and confined core as specified by its FOI. In which case, ideally the society's activities do not encroach on the activities (FOI) of other societies. But because the society's containment is not perfect, there is leakage and part of the society's activity may deviate from its central core of interest and encroach on the core of other organizations.

This is when competitive or predatory forces may be attracted and launch a takeover of these leaked activities. In particular, when the 80-20 rule is violated, and the society is perceived as containing a much smaller fraction of its core areas, it places its existence in danger of attacks. Therefore a society should not spread itself as thin and wide as to be viewed that most of its activities are outside of its defined containment and has excessive leakage. Such a society may have to spend excessive resources and energy to keep defending its existence, and will be accused of not serving its members is a well defined and confined set of interests.

The conclusion here is that for a successful society to survive in a competitive environment it has to keep its scope and membership narrowly defined.

Principle 2: Develop mission, vision, and value statements with a strategy and operational plan to fulfill them.

This principle states that the nature of the society and its plans need to be addressed. The ideal, but realistic desired future condition of the society (Vision) has to be developed, and clearly kept in mind. Also, the pragmatic approach how to achieve the conditions (Mission) has to be based on a foundation of sound management practices, and the society's value system. This must be done in a fair, honest, and ethical way – realizing that the end does not always justify the means. Therefore, the documents, including a strategic and operational plan, must be developed based on an organizational set of values. The values normally will embody the concept of fairness, honesty, respect for all individuals and society members, ethical behavior and other more specific values related to the organization, expressed in pragmatic and easily understood ways.

There is a rich literature with many books published on how to develop a Vision or Mission Statement, as well as a set of institutional values. One of the classical errors made by organizations is the development of these documents in haste, and with little or no knowledge or experience in these areas. The development of a good set of Vision, Mission and Value statements needs quality time to deliberate by the organizational leadership, and should result in its acceptance and full endorsement by them. It must form an enduring set of documents that are regularly consulted and all major institutional actions must be based on them.

Principle 3: Assure the availability of sufficient funds to sustain the quality and quantity of organizational programs and governance.

This principle suggests that a not-for-profit organization must also be not-for-loss. The society must have sufficient funds to cover the cost of the products and services it supplies to the membership and should be able to pay its bills on time. It also needs some reserves to cover unexpected expenses, and for the development and delivery of new products and services for its members. This includes the organizational, governance, and operational costs. A society may have several ways to generate needed funds. These include income from the sale of publications, income generated by conferences, collection of dues, funds from grants, donations, bequest, and other possible sources.

As a not-for-profit organization, the society has some things in common with for profit corporations, and some financial issues that are unique. Both a for-profit and a not-for-profit organization must operate "in the black." This is to say that on average it must generate income to be at a minimum equal to the expenses, and preferably more. The difference between the two types of organizations is in how much more is a reasonable income in excess of expenses. In the case of a for-profit corporation the more net income it makes, also known as profit, the better. It can keep what the corporation needs in reserves and distribute the rest to its stock holders. The more profit it makes, the more it can distribute and be judged by the market place as a successful and well managed corporation. But a not-for-profit soci-

ety has some fuzzy upper limits of reserves it should accumulate. Without stock holders to whom it can distribute excess funds, excessive reserves is an indication that the society is either charging too much for its products and services, or is not reinvesting enough for the benefit of its members, or both.

Therefore the society must manage its financial affairs in a very careful and business-like manner to "assure the availability of sufficient," but not more than is reasonably needed.

Principle 4: Produce a product or service that meets the common needs of the intended constituency.

Principle 4 is the reason for the creation or existence of a society. As stated in P1, the society is to serve the common needs and common interests of its members. It is in the development of P4 that the society must define the products and services that the society will deliver based on members' needs. This may include various publications, workshops and conferences, as well as educational seminars and other appropriate activities to meet member interests and wants. The health and viability of the society will ultimately depend on how well the common needs of the members are fulfilled.

The products and services have to be periodically adjusted as the membership and their field of interest evolves. Therefore the successful society should have an active strategic planning function that on a regular basis review the society's performance against its Vision, Mission, Values and operational plans as specified in P2.

Principle 5: Assure the availability of qualified volunteers, and provide them opportunities for satisfaction and commitment.

This principle identifies an often neglected principle, particularly in established organizations. Issues related to products and services are addressed by society members. They may praise the availability or delivery of their expected products or services, but more often they may provide feedback in the form of complaints when things are not to their satisfaction. The society leadership normally is also aware of the financial state of the organization. But much less attention is being paid to the recruitment, training, and retention of volunteers. The shortage of qualified and committed volunteers affects all other organizational issues as specified in the previous principles 1-4.

The number on volunteers needed has been briefly addressed as part of the P1 comments, as being 1%-5% of the society membership and that 2% is a reasonable target to consider. Depending on the volunteer position, the tenure commitment may vary from one to three years. These society volunteer officers will often have fiduciary responsibilities, and will be required to manage the society affairs in a knowledgeable and committed manner. They may be experts in their professional areas, but most of them are uninformed in the many areas of society governance. The society may therefore want to organize some training seminars for the current and prospective volunteers. A properly oriented volunteer may be a more committed and more satisfied volunteer. Just as an industrial corporation depends on a well qualified management team for its success, so does a membership organization depend on its volunteer management team to succeed.

Conclusion

The above five principles form a necessary and sufficient set of requirements for the formation and continuance of a not-for-profit volunteer membership organization – also known as a society. The brief explanatory notes have been included as an aid in understanding the principles. Implied, but not explicitly stated, is the need to develop governance documents, such as a Constitution, Bylaws, Policies, and procedures that are based on the Vision, Mission, and Value statements. For the development of these documents the organizing entity will have to consult the literature for the way to properly accomplish these tasks.

An established organization can also use this principle to check its current state of operations, by studying how well the Society is meeting these requirements. One value of these principles is that it provides an objective set of criteria that is not driven by institutional politics, personal agendas, or competitive forces. While these subjective forces are part of human nature, and cannot be totally eliminated, following these principles should assure the greatest possible objectivity.

Engineering Management Society Bylaw Changes

Charles Rubenstein, Chair
2005 EMS Governance Documentation Committee

At the January 2005 Board of Governors meeting motions were passed to rename the current Planning Committee (Policy 308.5.11) as the Strategic Planning Committee for the Engineering Management Society.

As the Strategic Planning Committee is not in our current set of 'standing committees', your Board of Governors approved the following proposal by EMS Executive Vice-President Tariq Durrani to change the Bylaws of the Society:

Whereas Bylaws Section 211 covers the current set of standing committees, be it resolved that a new committee be added as Section 211.3.12:

"Section 211.3.12 Strategic Planning Committee

The Chair of the Strategic Planning Committee (SPC) shall report to the Executive Vice-President. This committee is responsible for developing and recommending strategic and long-range plans and goals for the Society, for coordinating the EMS Strategic Plan with the IEEE Strategic Plan, and to assist EMS VPs in developing their Operational Plans. The functions of the SPC are delineated in the Policies section of the Operations Manual. The President, Executive Vice-President, and Vice-Presidents are ex-officio members of the SPC. The SPC shall meet at least twice each year in conjunction with Board of Governors meetings."

According to Section 110.2 of the EMS Constitution, having been passed by at least a 2/3rds vote of the Board, the above proposed Society Bylaw shall be published in the Society Newsletter and forwarded on to the IEEE Technical Activities Board for approval at their next (June 2005) meeting.

This Bylaw change will become effective at the July 2005 EMS Board of Governors meeting.

IEEE Membership

By Terrance Malkinson

The IEEE recently (March, 2005) released its membership Progress Report. Total membership in March reached 316,663 members yielding an annual growth rate of 0.5%. When looking at the membership grade categories the following distribution emerges:

Honorary	25
Fellow	5,752
Senior	26,032
Member	203,251
Associate	19,766
Student	61,837
TOTAL	**316,663**

World-Wide, the distribution of membership is as follows. It is interesting that the six US Regions are all showing a decline in their Higher Grade memberships, while all four non-US Regions are reporting increases.

Geographic IEEE Membership Summary March 2005

Region	Higher Grade Members		Change		Student Members		Change		Total Members		Change	
	2005	2004	#	%	2005	2004	#	%	2005	2004	#	%
1	32,081	32,954	-873	-2.6%	3,708	3,927	-219	-5.6%	35,789	36,881	-1,092	-3.0%
2	26,918	27,356	-438	-1.6%	3,561	3,719	-158	-4.2%	30,479	31,075	-596	-1.9%
3	22,699	22,836	-137	-0.6%	4,548	4,554	-6	-0.1%	27,247	27,390	-143	-0.5%
4	17,927	18,190	-263	-1.4%	3,916	4,032	-116	-2.9%	21,843	22,222	-379	-1.7%
5	22,311	22,524	-213	-0.9%	4,171	4,359	-188	-4.3%	26,482	26,883	-401	-1.5%
6	47,689	48,312	-623	-1.3%	6,579	6,812	-233	-3.4%	54,268	55,124	-856	-1.6%
US	**169,625**	**172,172**	**-2,547**	**-1.5%**	**26,483**	**27,403**	**-920**	**-3.4%**	**196,108**	**199,575**	**-3,467**	**-1.7%**
7	10,060	10,002	58	0.6%	3,187	3,243	-56	-1.7%	13,247	13,245	2	0.0%
8	35,036	34,037	999	2.9%	12,707	11,220	1,487	13.3%	47,743	45,257	2,486	5.5%
9	4,809	4,654	155	3.3%	4,433	3,568	865	24.2%	9,242	8,222	1,020	12.4%
10	35,296	34,764	532	1.5%	15,027	14,032	995	7.1%	50,323	48,796	1,527	3.1%
Non-US	**85,201**	**83,457**	**1,744**	**2.1%**	**35,354**	**32,063**	**3,291**	**10.3%**	**120,555**	**115,520**	**5,035**	**4.4%**
Total	**254,826**	**255,629**	**-803**	**-0.3%**	**61,837**	**59,466**	**2,371**	**4.0%**	**316,663**	**315,095**	**1,568**	**0.5%**

The IEEE Engineering Management Society's Annual International Engineering Management Conference IEMC2005

A Strategic View of Engineering and Technology Management

11 - 14 September 2005
Fairmont Hotel, St. John's, Newfoundland, Canada

IEMC brings together engineering and management professionals, and academics from around the world. This year we are very pleased to be hosting IEMC05 in St. John's, Newfoundland, Canada. St. John's blend of old and new extends far beyond old world charm and modern, world-class facilities. The location of such engineering "firsts" as the first transatlantic cable and receipt of the first transatlantic wireless communication, it is particularly appropriate for an engineering management conference. St. John's is also the headquarters and nucleus of leading edge multi-billion dollar resource development projects in mining and offshore oil/gas. Non-stop flights from various cities in Canada, from London's Heathrow and from New York/Newark make St. John's very accessible.

We encourage attendance from engineers, managers, business and management consultants, academics and researchers. IEMC is a forum for the exchange of ideas, experience, theories, and knowledge between all persons involved in engineering management.

IEMC's **Technical Program** runs Monday through Wednesday September 12-14 2005 and includes a wealth of topics such as:

- Rebuilding from Devastation
- Environmental Management
- Supply Chain Management
- Quality Management & Six-Sigma
- Building & Managing High Performance Teams
- Knowledge Management
- Technology/Innovation Management

Preceding the conference, the following **tutorials** are offered on Sunday, Sept. 11

Tutorial	Duration
Getting Your Point Across: Essential Communications for Engineers	1 day
How the West Was Lost: A workshop for managers on Statistical Process Control	½ day*
Leading an effective engineering organization	½ day
New trends in project management	½ day*
So you want to be an entrepreneur/management consultant	½ day

(* = morning tutorial sessions)

For online registration
and other information can be found on the conference website:
http://www.iemc2005.org or email us at: info@iemc2005.org

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IEMC is the annual Conference of the IEEE Engineering Management Society
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IEMC2005 Co-Sponsors:

IEE Management Professional Network

IEEE Canada (Region 7)

IEMC2005 Are You Seeking "A Strategic View of Engineering Management"?

The IEEE Newfoundland and Labrador Section are extremely pleased to host the IEEE Engineering Management Society's 18th Annual International Engineering Management Conference (IEMC2005) in St. John's, Newfoundland, Canada - a city unlike any other; September 11 – 14, 2005. IEMC2005 is sponsored by IEEE EMS, the IEE Management Professional Network, IEEE Region 7, and the IEEE Newfoundland and Labrador Section.

The multifaceted nature of engineering today requires one to be conversant in various engineering disciplines, to be proficient in knowledge management, to understand the implications of globalization, to be ready to seize opportunities from innovation and design a pathway to commercialization, to keep pace with rapid technological advances, and so much more. We have received more than 350 abstracts and anticipate 200-250 papers will be presented at the Conference.

We encourage attendance from engineers, managers, business and management consultants, as well as academics and researchers. IEMC is a forum for the exchange of ideas, experience, theories, and knowledge between all persons involved in engineering management. For up to the minute information on the conference please bookmark the Conference website, www.iemc2005.org, and revisit it often.

Come join us and discover the hospitality and charm of the oldest city in North America!

St. John's is a city that combines a rich cultural and historic heritage with a modern outlook - one of the oldest settlements in North America, St. John's was the beachhead from which the British and French explored North America. From the stately homes of the gentry lining Circular Road to the commercial scramble of Water Street, the downtown core of the city has remained virtually unchanged since its heyday of the late 19th century, when it rivaled Boston and Halifax as the primary seaport of North America's Eastern Seaboard. If you are interested in live entertainment, St. John's ethnic composition of English and Irish ancestry is reflected in its nightlife.

George Street, a few blocks from the conference hotel in the heart of downtown St. John's is the place to find old world pubs. Along the length of George Street you'll find some over 20 pubs and bars featuring Irish, country, dance, rock and roll and traditional music. No matter what you are in the mood for, you are sure to find something that strikes your fancy.

St. John's provides the visitor with a wealth of historic locations for the visitor to experience. Signal Hill, guarding the entrance to St. John's sheltered harbour, was a bastion of the British Empire as it protected its far flung resources, but is better known to the engineering community as the site of Marconi's historic transatlantic wireless transmission in 1901. The Newman Wine Vaults have been used for hundreds of years to age Britain's port wine, shipped here from Portugal to take advantage of the moderate climate and humidity.

Within driving distance of St. John's are the community of Ferryland, site of Lord Baltimore's first North American colony; Cupids, site of the first European colony in the New World; and Heart's content, the terminal for the first transatlantic telegraph cable. Please refer to www.stjohns.ca and www.gov.nf.ca/tourism for more information on the city and surrounding areas.

The City of St. John's has become one of the most desirable sites in Canada to host meetings and conventions. Rising spectacularly from the water's edge, St. John's promises you a sophisticated city experience with small town warmth and safety. Visitors will experience our world famous hospitality and friendly service within the oldest city in North America. You will enjoy modern accommodations, traditional and international cuisine to tantalize the most sophisticated taste buds along with specialty boutiques and craft shops with unique works by our local craftspeople; the perfect complement to their rich history, local culture and breathtaking scenery.

At the same instant you can stand at the most easterly point of North America, in Canada's youngest province, and North America's oldest city. Daily non-stop flights are available from various cities in Canada, from London's Heathrow and from New York/Newark; please refer to, for example www.aircanada.ca, www.continental.com, www.canjet.com, and www.westjet.com for more information.

The venue for IEMC 2005 is The Fairmont Newfoundland, in the heart of beautiful downtown St. John's. In addition to the technical program, an active and enticing social program will be offered to all attendees, partners, and guests. For more information please refer to the hotel's website at www.fairmont.com/newfoundland/.

About IEMC2005

The International Engineering Management Conference (IEMC) is the annual conference of the IEEE Engineering Management Society bringing together engineering and management professionals and academics from all over the world. Since 2002, the

IEE Management Professional Network has been a collaborating partner with the IEEE Engineering Management Society and the local chapter/section. This partnership strengthens with every conference and has ensured the continued success of IEMC. IEMC 2005 is also co-sponsored by IEEE Region 7 (IEEE Canada) and IEEE Newfoundland and Labrador Section.

This year, after receiving close to 400 abstracts, approximately 250 papers will be presented in the Technical Program of IEMC over three days. The broad range of topics including:

- technology/innovation management
- building and managing high performance teams
- rebuilding from devastation
- environmental management
- supply chain management
- quality Management/Six-Sigma
- knowledge management

is sure to provide valuable information and insight for engineers and management professionals.

In addition to an outstanding technical program, on Sunday, Sept. 11 the Conference is offering the following half and full day Tutorials given by leading experts in the field in the chart below.

A schedule outline follows. Full details on the Technical Program, Tutorials and other events can be found on the website www.iemc2005.org

	Sunday September 11	Monday September 12	Tuesday September 12	Wednesday September 12
0730-0830		Breakfast & Registration		
0830-0900	Tutorials	Opening Ceremony	Keynote Address 2	Closing Address
0900-1000		Keynote Address 1	Technical Sessions	Technical Sessions
1000-1030		Refreshment Break		
1030-1230		Technical Sessions	Technical Sessions	Technical Sessions
1230-1330		Lunch		Conference Ended
1330-1500		Technical Sessions	Technical Sessions	
1500-1530		Refreshment Break		
1530-1730		Technical Sessions	Technical Sessions	
1900-2200	Registration	GeoCenter & Signal Hill Tour	Conference Banquet	

Of course when in North America's oldest city one should also get out and experience it. The conference is offering a diverse Social Program for guests and delegates including both complementary and "for purchase" activities. These range from historic walking tours and scenic bus tours, to ocean kayaking expeditions, to lessons on cooking local cuisine with a master chef. Again, details are available on the website.

As part of your registration, conference delegates will receive a ticket to the formal banquet which will be held on Tuesday evening 13 September 2005 at the Fairmont Newfoundland (additional tickets can be purchased during registration).

We have arranged to provide complementary transportation and tours of nearby Signal Hill and the Johnson GeoCenter on Monday evening 12 September 2005 for both delegates and guests.

Signal Hill sits amidst a spectacular view of St. John's and the Atlantic Ocean. It was the reception point of the first transatlantic wireless signal by

Tutorial	**Presenter**	***Duration***
Getting Your Point Across Essential Communications for Engineers	Celia Desmond World Class Telecommunications	1 day
How the West Was Lost: A workshop for managers on Statistical Process Control	Anthony Bainbridge	$\frac{1}{2}$ day
Leading an effective engineering organization	Leslie Martinich Competitive Focus	$\frac{1}{2}$ day
New trends in project management	Sameh Salem GE Energy	$\frac{1}{2}$ day
So you want to be an entrepreneur/management consultant	Tom Bursey Right Management Consultants	$\frac{1}{2}$ day

Guglielmo Marconi in 1901, as well as the site of harbor defenses for St. John's from the 18th century to the Second World War.

The Johnson GeoCenter is housed in one of the most distinctive buildings in the province, on a beautiful 7 hectare (18 acre) property next to Signal Hill National Historic Site. The large, glass-encased Entry is the only part of the building above ground. Most of the over 3,100 m2 (33,000 ft2) of floor space are underground — right inside of the solid 500 million year old rock walls! The main exhibits start off underground in a state-of-the-art theatre that takes you back through the story of Earth, unleashing the power of volcanoes, earthquakes, and torrential rainstorms with startling realism. The rest of the exhibits area is divided into four sections — Our Planet, Our Province, Our People, and Our Future.

Registering and Other Information for IEMC2005

To register online for IEMC 2005, or to find more detailed and additional information about the Conference, please refer to the website: www.IEMC2005.org. Please note that all fees listed are in Canadian dollars. Specific questions can be emailed to info@iemc2005.org

IEMC 2005 Committee

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IEMC is the annual Conference of the IEEE Engineering Management Society

IEMC 2005 is Co-Sponsored by:
IEE Management Professional Network
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IEEE Newfoundland and Labrador Section

Call for IEMC Conference Proposals 2009 and Beyond

Charles Rubenstein

Since 1987 the IEEE Engineering Management Society (EMS) has brought together a highly diverse group of engineering and technical managers from all over the world to present and participate in its annual International Engineering Management Conference (IEMC). EMS is seeking possible venues for IEMC2009 and beyond. IEMC Conferences are globally situated such that we can ensure their availability to our EMS membership.

Conferences have been held or are being planned for:

IEMC2001: San Juan, Puerto Rico
IEMC2002: Cambridge, UK
IEMC2003: Albany, New York, USA
IEMC2004: Singapore
IEMC2005: St. John's Newfoundland, CANADA
IEMC2006: Salvador, Bahia, BRAZIL
IEMC2007: Austin, Texas USA

The venue for IEMC2008 will be decided at the July EMS Board meeting in Quebec City, Quebec,

As can be seen in the articles on IEMC2005 in this issue of the Newsletter, the two and a half day IEMC conference provides information on the latest developments in technology/innovation management, building and managing high performance teams, rebuilding from devastation, environmental management, supply chain management, quality Management/ Six-Sigma, and knowledge management. The Conference is preceded by up to four half day and two full day tutorials on topics such as (from IEMC2005) 'Getting Your Point Across: Essential Communications for Engineers'; 'How the West Was Lost: A workshop for managers on Statistical Process Control'; 'Leading an effective engineering organization'; 'New trends in project management' and 'So you want to be an entrepreneur/management consultant'.

The deadline for proposals is May 15, 2006. Proposals must include a formal offer of intent, a list of recommended co-sponsors (including contact information), completed IEEE Conference Budget Worksheets, Conflict of Interest statements signed by the proposed Conference Chair and Treasurer, a list of organizing committee members, information on the proposed hotel and/or conference center, ease of air travel, local spouse programs, sites of interest, etc., Proposals will be reviewed by the EMS VP, Conferences and the EMS Finance Committee prior to the EMS July 2006 Board meeting at which a decision will be made.

Additional information can be found online at:

http://www.ewh.ieee.org/soc/ems/committees/conferences.html

To alert EMS of your intent to propose, please contact EMS 2005 VP, Conferences (acting), Dr. Charles Rubenstein <c.rubenstein@ieee.org>.

Special Issue of IEEE Transactions on Engineering Management Theme: University Technology Transfer

Co-editors: Albert N. Link-University of North Carolina at Greensboro (al_link@uncg.edu) Frank T. Rothaermel-Georgia Institute of Technology (frank.rothaermel@mgt.gatech.edu) Donald S. Siegel-Rensselaer Polytechnic Institute (sieged@rpi.edu)

Overview

The recent increase in university technology transfer, via patenting, licensing, research joint ventures, incubators, science parks, and NSF-sponsored Engineering Research Centers and Industry-University Cooperative Research Centers has important managerial and policy implications. We seek papers from scholars in management (e.g., strategy, entrepreneurship, human resource management, and technology/innovation management), economics, sociology, political science, public administration, and engineering that explore these implications. Both quantitative and qualitative papers are welcome. All papers will undergo double-blind, peer review.

Research Questions

Some research questions that might be addressed in this IEEE-TEM special issue are:

- Evaluation of institutions and programs involved in university technology transfer
- Differential performance within and across institutions (e.g., universities, incubators, science parks)
- Relationships between university and industry (e.g., intellectual property rights)
- University start-up and incubator firm differential performance
- The role of human resource management practices in university technology transfer
- Importance of strategic alliances and social networks in technology transfer
- Trade-off between commercial or applied research and basic research
- Effects of technology transfer on the educational process
- Effects of technology transfer on management, especially on engineering management,
- Conflicts of interest between scientists and universities
- Formulation of technology transfer strategies by universities or industry
- Implementation of technology transfer strategies by universities or industry

Proposed Time-Frames for this Special Issue **Stage**	**Date**
Deadline for papers to be submitted electronically at IEEE Manuscript Central (http://tem-ieee.manuscriptcentral.com) indicating that they are for the special issue on university technology transfer.	March 31, 2006
Authors receive initial editorial decision	June 2006
Special issue workshop at Georgia Tech for papers that are invited for revision	late September 2006

An Engineer Does Not Make A Good Manager?

by Eridani Sudiono
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When my previous employer hired me, one of the employer's hidden agenda for me is to bridge techie-people and human-people who were belong to two different groups. Usually these two types of groups do not communicate well.

If the communication between these two groups does not work well, then the projects performed by my previous employer could not deliver the results in a timely manner as promised to the clients.

The techie-group covers the system development work, including project

site preparation, coding, and testing the developed computer system. The majority of these tasks were part of my job before joining this employer.

The human-group covers the organisational design and development for the people who would use and would be affected by the new computer system. Other preparation for the organisation also covered; training and people support are to name a few.

Some of my previous experiences are training and teaching technical material, such as operating system, programming, etc, and I love sharing, i.e., teaching in this case. Maybe based on these experiences, I was then implicitly expected to bridge the two groups even though my new home was not in the techie-group.

In the beginning, I still behaved as a strong techie person who started to learn to be softer. In fact, I was in a period when I was not sure what I was doing. Fortunately, I found the new experiences interesting and I learnt gradually about the focus of attention of the human-group and how things were done in the human-group. When I mastered necessary skills in doing my new job, I started to question the situation of the not-so-good-communication between the two groups.

I was wondering why my task was not done by the leaders, including the managers of the two groups (I did not joined the company on managerial level). It is the technology manager's task to ensure that the programmers develop what has been designed by the human-group. However, this was not done successfully as there was a problem of understanding what has been designed by the human-group.

When it comes to prepare training system infrastructure, for example classrooms connectivity, two persons from the techie-group and the human-group usually have problem comprehending each other. The human-group person usually say that the techie-group person talks a fully gibberish. On the other hand, the techie person became speechless and did not know what to do.

Usually, the human-group person gives up and let the techie-group does whatever required to be done as long as the "show" will on with minimum disturbance. Anyway, many arrangements are similar to those have been done in previous projects, and anyone involved in the previous projects can be called to at least give a hint.

The situations I just recalled are the kind of "normal" communication situation between the techie and the non-techie peoples. However, some of the techie people are gifted or have interests in the "softer" area, so that they have shorter learning curve when they go to managerial area.

Other than communication, techie people does have problem when facing uncertainty. They are well trained to solve problems with certain conditions.

A set of three linear simultaneous equations with 3 unknowns is solvable. However, if the unknown is added, it becomes impossible. Sounds familiar, right?

This was mentioned by Dr. I.Engelson, the President of IEEE EMS in the President's Corner of one of the previous EMS newsletter, titled Reengineering the Engineer. To make a good manager, engineers, i.e., techie peoples are indeed required to prepare themselves with people skills.

Dealing with people is not a straightforward act. If there is a problem with a machine, a set of testing or fault checking mechanism can be prepared and later be used by others. The same can not be applied to human being.

The best possible similarity to the checking mechanism of a machine is possible to be used in a situation when human being is the focus, but there are still uncertainty factors, e.g., human mood.

I would suggest any engineer who wants to climb up corporate ladder on the managerial area should have at least willingness to learn and adopt necessary people skills; communication is one major thing, another major thing is readiness to face unpredictable events.

Allow ample time to learn and get used to the new settings. However, after a certain period of time, if you still feel unsure, you might want to consider returning to your "world", i.e., techie enviroment and pursuing career as a specialist of a particular technology. However, do not take this too long, as technology moves very fast, maybe it is even faster than the people skill learning result you might obtain by the end of your learning curve.

In my case, I did not return to techie environment, and I took the opportunity to learn more people skills, which turned out to be very valuable experiences when later I decided to do project and programme management for IT related projects.

Chapter Reports

Southeastern Michigan Chapter

Mark Ciechanowski, P.E

At our spring section conference on April 6, Dennis Siemiet presented "Compatibility Between Personal and Company Core Values". The compatibility of the employee's core values with the company core values is critical to the performance of the company and the well-being of the employee. Most companies try to document the core values into a mission statement. Hopefully the mission statement accurately defines these core values. There is however frequently an underlying personality and core values that are frequently not discussed and are different from what is in the mission statement. The actual core values are what impacts how critical decisions are made and the basic interaction. Each manager and employee should understand the company's actual core values, the values of their managers, their own personal value system and an understanding of the compatibilities between these. This presentation discussed these interactions and how they impact the company and employees.

The speaker: Dennis Siemiet is an engineering manager with over 30 years of experience in automotive and defense industries. In management and team leadership roles, Dennis has built cohesive technical teams under challenging and difficult conditions. Some examples included developing of an advanced 55 ton tracked vehicle with a 1-megawatt electric drive, networked subsystems, and 3-power bussed (24vdc automotive bus, 270vdc for high power system and an 800 volt propulsion bus). Dennis presented at the First International Conference on All Electric Combat Vehicles (AECV).

Our upcoming events include seminars in June and August. On Wednesday, November 9, 2005 we will hold our Fall Section Conference and Dinner, at the Fairlane Center, University of Michigan-Dearborn.

Munich Chapter

Gerald Anleitner

In a joint effort, the IEEE Student Branch of the Technische Universitaet Muenchen (Munich University of Technology), the IEEE GOLD Group Munich and the Engineering Management Chapter of Germany invited the IEEE members of the Munich area to a talk about New Product Development. On January 28th, about 40 IEEE members of the Munich area met at a seminar room of the Technical University of Munich to a lecture by Darrel Chong on "Impact of Time Pressure on Teams in New Product Development".

With this lecture, the EMS Chapter continues its activities in the area of New Product Development. In addition, the joint activity together with the GOLD Group and the Student Branch stresses the effort of different IEEE bodies to interact with each other and to offer additional value of membership to all IEEE members.

The lecturer, Darrel Chong, works towards his PhD in a research project of the National University of Singapore (NUS) and the Technische Universiteit Eindhoven (TU/e). In addition, he is a member of the IEEE GOLD Committee 2005 and active within student branch and GOLD activities in Singapore.

In his lecture, Darrel Chong explored the impact of time pressure on individual and team processes, and how the phenomenon could impair performance. The aim was to provide a behavioral and theoretical perspective to the professionals developing new products and discuss how managers can possibly mitigate the negative effects of time pressure. The lecture received very positive feedback by the participants and energetic discussions took place after the lecture.

Taking into account the success of this event, the different IEEE entities will continue their common effort as the "IEEE Community Munich". We are especially grateful to the IEEE Germany Section for supporting this event.

Central Texas Chapter

Leslie Martinich

The Central Texas Chapter (http://www.ewh.ieee.org/r5/central_texas/ems/) continues to increase its activities and provide support for the growing community of engineering and technology managers. We meet monthly for dinner, a presentation and a lively discussion. Our chapter's goal is to help to improve the skills and effectiveness of those managing engineering and technology.

Topics at some recent meetings included:

- October - Catherine Crago from the Semicon Group spoke about working with a globally dispersed team and the differences in work styles and communication.
- December - We had a Project Management Panel Discussion.
- January - We held a joint meeting with other Central Texas Section groups to tour the Texas Advanced Computing Center.
- February - Leslie Martinich, founder of Competitive Focus, led a discussion of how engineering managers can build and maintain high performing teams. We used George Farris's useful presentation from IEMC 2004 as a starting point for the discussion, focusing on the idea of providing engineers with challenges that engage them and help them to

build successful and satisfying careers.

- March - Steve Prough, retired from Intel, presented a talk on the "Cultural Impacts on Global Knowledge Management," which included a discussion of the "models of reality" by which we understand our environments.

- April - Bijoy Goswami, founder of Aviri, presented a talk on "The Alchemy of Teams," discussing the various types of people involved in successful entrepreneurial activities.

- In May, James Mercier will lead a discussion of some of the challenges engineers face in dealing with disaster and disaster recovery. He will use as a case study the project of creating the Queen Isabella Causeway Bridge Collapse Detection and Motorist Warning System, a project undertaken after a barge struck the bridge in 2001, causing a bridge span to collapse.

- In June, Darius Mahdjoubi will speak on Action Planning for Project Management.

July 27-29 we will co-host the 6th Annual IEEE-UT Engineering Management Conference (www.ieeeutemc.org). This year's topic is "Managing in Uncertain Times." Attendees at the conference are able to earn 1.5 CEUs, including the topic of Ethics, allowing them to meet Professional Engineer recertification requirements.

We are actively planning for the 2007 International Engineering Management Conference, which we will host in Austin, Texas. We are looking at several exciting offerings for that conference, and plan to build on the expected success at IEMC2005 in St. John's, Newfoundland, and IEMC 2006 in Brazil.

Dallas Chapter
Bob Bishop

Ms. Valerie Pelan, Integrated Focus, "Emotional Intelligence"

Stimulated by Daniel Goleman's books on this subject; Emotional intelligence "refers to the capacity for recognizing your own feelings and those of others, for motivating ourselves, and for managing emotions for the most positive outcome in all relationships and interactions". Goleman developed five basic competencies: self-awareness, self-regulation, motivation, empathy, and social skills. Two examples can help us see the relevance today

1. Ever notice someone at a networking event who seems to have an awareness of self and others around at the same time? That person correlates well will success in those five competencies

2. When offered one marshmallow now or two later, children can be led top delayed gratification to achieve later goals in life. Exercises to improve our listening kills were one of the highlights of this talk! "High Risk Emotional Intelligence Issues and Exercises" are scheduled for our October 2005 meeting

At our next meeting in May - Mr. C.J. Comu. Chairman/CEO Humitech International Group Inc will be discussing Humidity Control in Cold Storage with the emphasis to be "Energy savings and reduced compressor run time –based on humidity control".

Bombay Chapter
Mr Kirit J Sheth and Anthony Lobo

At its inception in October 2002, the EMS Bombay Chapter www.ieee.org/bombay/ems chose a mission statement which included a plan to deliver a pool of "actionable ideas" in a focused manner and on an ongoing basis.

Accordingly, our Chapter has held seminars on subjects such as "Risk Management" and "The Role of Engineering Management In the Power Sector" and we are glad to report on the third in the series, "Energizing India – IT The Change Agent" held in March 2005.

The event which was held in a premier hotel in the central business district of Mumbai brought together a host of eminent speakers who sketched the key role of information technology as an agent of transformation. Some dwelt on the inroads that IT has made in the commercial world of stock exchanges and banking while other experts like IEEE Fellows, Dr Faqir Chand Kohli and Dr Krithi Ramamritham enlightened the audience on how IT can find non-conventional applications in development, literacy and telemedicine.

His Excellency S M Krishna, Governor of Maharashtra state sent a special message for the Seminar. He has been a great patron of IT in Bangalore in his previous role as Chief Minister.

In his welcome remarks, Kirit Sheth, the chair of IEEE EMS Bombay Chapter, spoke on the role of IT in the multifarious facets of modern life and its role as a transforming agent in enriching the lives, in governance and in empowering the masses of India.

Mr. N. Vittal, former Chairman of Telecom Commission and the Union Secretary in the Ministry of Information Technology and Prof Deepak Phatak, Head of S J Mehta School of Management at Indian Institute of Technology (IIT), Powai were the keynote speakers.

The theme of the first session was "Capital and Financial Markets and Banking", chaired by Mr. Jayant Pendharkar, VP Global Marketing at TCS Ltd. The speakers included Dr. R. H. Patil of the Clearing Corporation of India Ltd, Mr. Dewang Neral-

la, Chief Technology Architect of the Multi-commodity Exchange of India Ltd and Mr. Anuj Bhargava of Tata Consultancy Services. Dr Patil in particular, held the audience spell-bound with his lucid description of the development of online stock trading in which India has developed world class competencies.

"I.T. for Development – Enabling Technologies" was the next session, chaired by Prof. Krithi Ramamritham, Director of Kanwal Rekhi School of IT (KRESIT) at IIT, Powai. He spoke with passion on his work with telemedicine, low-cost computing, water quality monitor and the development of an information portal for rural agriculture. Dr. M.V. Ananthakrishnan from KRESIT explained his work with literacy for nomadic tribes, Dr. S. K. Garain of the Tata Institute of Social Sciences expounded on social aspects of development, and Mr. S. Seenivasagan of Reliance Infocomm described their exciting technological rollout plans.

The final session of the first day was chaired by Dr.V. K. Dharmadhikari, Scientific Officer in the Union Ministry of Communication and Information Technology who gave an inspiring talk on the present scenario of ICT for development. Dr. P.V. S. Rao of Tata Infotech and former Chair of IEEE India Council described the latest advances in bio-metric devices, voice recognition systems, etc while Manish Khera of ICICI Bank rolled out initiatives in rural banking.

On the second day, Dr. Faqir Chand Kohli, former deputy Chairman of India's largest IT company – TCS gave an inspiring keynote speech highlighting the chasm that divides India from China in terms of development and suggesting milestones on the road ahead. Mr. Kohli's efforts with improving adult literacy and the quality of engineering education and with the IT industry are well known.

"IT Applications in Government" was the theme of the first session. Andhra Pradesh is almost synonymous with e-governance and there were excellent presentations both from the AP government as also from Mr. Nageshwar Rao Challa of TCS. In the third presentation, security aspects of IT systems were touched upon by Prof. Venugopal Iyengar, an authority on the subject, and also from TCS.

In the session "IT in Education" Prof Kesav Nori, Exec VP, TCS dwelt on key issues concerned with education, adult literacy and pedagogy, while Principal S Y Mhaiskar, SPCE described the ground realities in the field of technical education.

The final session and closest to the theme of "Energizing" India was "IT in Power and Energy Sectors". It was chaired by Mr. A. Velayutham, member of the Maharashtra Electricity Regulatory Commission (MERC). The speakers included Mr. Ajay Rajani from Reliance Energy and Messrs Ghate and Mugwe from Tata Power Ltd. The primary role of I.T. is that it changes the way power is generated, distributed and customer services are attended. Mr. Rajani of Reliance described a system where the cable fault is detected in the control room almost before a consumer complaint comes in. The Tata Power team demonstrated the level of systems control and quality of power that could be attained though intervention of IT.

We had started planning this seminar with the following goals for the sessions and the speakers. The sessions, we said, must deal with:

- cases where IT usage led to significantly more economic activity in a region or a domain or a sector.
- "assessing IT's impact on India in a holistic manner" : impact of IT beyond outsourcing and generating revenue and employment
- cases where IT re-engineered the processes
- proposed IT techniques and solutions which are easy to implement and would make a huge difference if present.

As may be noted, this was largely achieved through the Seminar with the impressive line-up of speakers which the organizers could marshal together in the short time. It is proposed to bring out the proceedings in a CD for wider dissemination.

The event had the support of IEEE Bombay Section and IEE Mumbai Centre and was sponsored by Tata Consultancy Services and Bharat Heavy Electricals Limited.

Engineering Management Society Case Study Project

by Terrance Malkinson

At the winter meeting of your Board of Governors we engaged in a process of brainstorming methods of generating revenue to support the operation of the Engineering Management Society. We were interested in products or services that would add value to your membership. Many good ideas emerged and after considerable discussion two proposals were decided upon for action. One of these projects involved the creation of a compendium of case studies emerging from the real life work experiences of our members. These could be used in a number of ways the commonality being sharing the experiences of well-seasoned engineering managers with you the members. By doing so all will benefit from this opportunity for professional development. In addition with marketing we would be able to sell these, creating a revenue stream for the society.

Our vision is to begin with relatively short case studies that are specific

dealing with one issue. These would probably not to exceed four or five pages at most.

These are to be case studies on issues that engineering manager's face on a daily basis. Local, national, and global cases are within the scope of the project. It is projected that in the first year we would publish 25 such cases. At that time we would review the project and then move forward making adjustments suggested by feedback received. We believe that the scope of this project will be designed in such as way that we are offering a unique product, not currently available in the marketplace.

Briefly, a case outline typically looks like this:

Description of Case
Definition of the Problem
Analysis of the Root Cause(s) of the problem
Collection of information
Literature
Hypothesis testing
Important Salient Issues

Solution(s) to Case
Alternative Solutions
Analysis of each alternative solution
Recommendations for action
Evaluation of outcomes

The benefit to you is giving you the opportunity to share your experiences with your colleagues, and gain a valued addition to your resume. Case studies are a powerful and flexible empirical tool used both prospectively and retrospectively.

We wish to enlist your interest in this project by encouraging you to submit ideas for case studies or case studies themselves for consideration for publication. We will help you in developing your idea. We will be seeking the advice of professional case writers and reviewers to ensure that we have a product of value to you the engineering manager and to students of engineering management.

Should you wish to join the project team you are welcome to do so. We welcome your suggestions on how to implement this project.

Please forward your suggestions to
Terrance Malkinson
malkinst@telus.net

IPCC LIMERICK 2005
CEANGAIL

Why Come to Limerick in July?

The International Professional Communication Conference, 10-13 July 2005 in Limerick, has a stem of presentations of special interest for EMS members.
Internationally renowned speakers will focus on communication issues that engineering managers deal with, such as these:

- Content Management—information architecture and information modeling; IBM's use of DITA, an architecture for globalization of information; a case study about choosing and implementing a content management system (CMS).
- Knowledge Management—how IBM UK assures effective reuse of information; Boeing Australia's insights on KM in the aerospace industry.
- Internationalization—communication protocols to help manage international virtual teams; a case study on adapting aviation training in English for international standards; how web pages of three international companies are ergonomically designed for consumers; trade-offs Siemens Austria find in offshoring.
- Usability—international usability issues; case study of collaboration between usability experts and project leaders at Ipswitch.
- Global Communication Challenges—what innovation requires, beyond just good ideas; communicating with the public around the world about genetically modified organisms (GMOs); challenges in information and communication management in humanitarian relief efforts; global challenges in the contemporary business environment.

EMS members qualify for the Member discount. Register at http://ieeepcs.org/limerick. For more information: Marj Davis, general chair IPCC 2005, davis_mt@mercer.edu

Board of Governors

Your Board serves the interests of the Society and promotes Excellence in Engineering Management. The EMS Board needs your imput to help determine if the Society meets your needs. Please contact any Board member for additional information, for expressing opinions, or raising issues that need to be addressed by the Society.

Visit the Engineering Management Society web site http://www.ieee.org/ems

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Issue	Deadlines
First Quarter	15 January
Second Quarter	1 April
Third Quarter	1 July
Fourth Quarter	1 October

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