

IPENZ ENGINEERING UPDATE February 2008



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Management/Leadership/Strategic Planning/Recruitment/Training and Development/Project Management/Corporate Responsibility

√IPENZ 11/01 What leaders must do to ensure mentoring success.

Zachary, L. Chief Learning Officer, Volume 6 Issue 12 (December 2007) Pages 18-21.

The author suggests eight ways of making sure mentoring within a company is sustained over a long time.

√IPENZ 11/02 Why mentoring matters in a hypercompetitive world.

DeLong, T., Gabarro, J and Lees, R. Harvard Business Review, Volume 86 Issue 1 (January 2008) Pages 115-121.

Professional service firms (PSFs), like so many other companies, are juggling the modern challenges of global competition, increased regulation, and rapid employee turnover. In a people-oriented industry, attrition has special import. The authors argue that a PSF can gain a much-needed competitive edge by renewing its focus on mentoring. The authors' in-depth interviews with professionals from more than 30 PSFs have yielded four principles for firms to heed as they rediscover this lost art.

√IPENZ 11/03 Industry mentoring links are becoming mutually beneficial.

Steakley, L with Rubin, D. ENR, (22/29 October 2007) Pages 34-36, 39.

√IPENZ 11/04 How recent case law affects the conduct of an expert.

Winter, J and Davies, L. Proceedings of the Institution of Civil Engineers: Management, Procurement and Law, Volume 160 Issue MP2 (May 2007) Pages 55-59.

U.K. perspective.

√IPENZ 11/05 Leadership integrity in a fractured knowledge world.

Waddock, S. Academy of Management Learning & Education, Volume 6 Issue 4 (December 2007) Pages 543-557.

√IPENZ 11/06 Earth in the balance sheet.

Liebs, S. CFO, Volume 23 Issue 12 (December 2007) Pages 61-66.

Discusses sustainability reporting from a company perspective.

√IPENZ 11/07 Public sector reform in New Zealand : issues of public accountability.

Mulgan, R. Public Administration Quarterly, Volume 32 Issue 1 (Spring 2008) Pages 1-32.

√IPENZ 11/08 **Minimizing risks through a corporate information compliance initiative.**

Myler, E. Information Management Journal, Volume 42 Issue 1(January/February 2008) Pages 58-63.

Focus on records management.

√IPENZ 11/09 **Fix IT (information technology)-business relationships through better decisions.**

Grover, V. et al. Communications of the ACM, Volume 50 Issue 12 (December 2007) Pages 80-86.

Discusses information technology (IT) projects within a corporate environment – decision making and accountabilities.

√IPENZ 11/10 **Project management on a global scale.**

Ellens, D. Industrial Engineer: IE, Volume 39 Issue 11 (November 2007) Pages 46-50.

Highlights some key considerations for project management in the international arena.

√IPENZ 11/11 **When your gut speaks, should you listen?**

Luecke, R. Harvard Management Update, Volume 12 Issue 2 (February 2007) Pages 3-4.

There is a role for intuition in business decision making. This article outlines how to recognize when this is an appropriate tool.

√IPENZ 11/12 **Design management: changing roles of the profession.**

Male, D., Bower, D and Aritua, B. Proceedings of the Institution of Civil Engineers : Management, Procurement and Law, Volume 160 Issue MP2 (May 2007) Pages 75-82.

√IPENZ 11/13 **A usability analysis of company websites.**

Cappel, J and Huang, Z. The Journal of Computer Information Systems, Volume 48 Issue 1 (Fall 2007) Pages 117-123.

√IPENZ 11/14 **Designing the age-friendly workplace.**

Silverstein, M. Occupational Hazards, Volume 69 Issue 12 (December 2007) Pages 29-32.

Suggestions for employers facing an aging workforce are outlined.

√IPENZ 11/15 **Innovation and the internet.**

Cerf, V. Research Technology Management, Volume 51 Issue 1 (January/February 2008) Pages 330-33.

Written by Vincent Cerf who is known as “father of the internet”

√IPENZ 11/16 **CEO succession as a funnel : The critical, and changing, role of inside directors**

Mooney, C et al. Organizational Dynamics, Volume 36 Issue 4 (2007) Pages 418-428.

√IPENZ 11/17 The experience trap.

Sengupta, K., Abdel-Hamid, T and Van Wassenhove, L. Harvard Business Review, Volume 86 Issue 2 (February 2008) Pages 94-101.

When companies put seasoned managers in charge of important projects, they don't expect missed deadlines, budget overruns, and rampant defects. However, that's what researchers found when they tested hundreds of experienced project managers. The study strongly suggests that veterans in complex environments suffer a breakdown in the learning process. Firms would do well to focus more on training people higher up in the organization and stop leaving them to fend for themselves.

√IPENZ 11/18 Models of Innovation: startups and mature corporations.

Freeman, J and Jerome S. California Management Review, Volume 50 Issue 1 (Fall 2007) Pages 94-119.

Comparisons are made between entrepreneurial start-up companies and mature established corporations.

√IPENZ 11/19 PowerPoint at 20: back to basics.

Gaskins, R. Communications of the ACM, Volume 50 Issue 12 (December 2007) Pages p15-17.
Tips for using PowerPoint.

√IPENZ 11/20 Research: the hidden power of UK construction.

Clarke, B. Civil Engineering, Volume 160 Issue 2 (May 2007) Pages 89-95.



Technical Aspects of Engineering –Abstracts for most available upon request.

√IPENZ 11/21 Corrosion behavior of zinc, galvanized, mild steel in water-concrete environment.

Blaszczynski, T and Lowinska-Kluge, A. Corrosion, Volume 63 Issue 11 (November 2007) Pages 1063-1069.

√IPENZ 11/22 Damage assessment in advance composite structures using embedded fibre bragg grating systems.

Lau, K., Ling, H and Lam, P. The Hong Kong Institution of Engineers Transactions, Volume 14 Number 3 (September 2007) Pages 23-32.

√IPENZ 11/23 Design and construction of the Kingston Communications Stadium, Hull.

Carr, J and Reynolds, P. The Structural Engineer, Volume 85 Number 8 (17 April 2007) Pages 28-32.

√IPENZ 11/24 **The re-orientation of Wembley Arena.**

Buckton, C and Reeder, K. The Structural Engineer, Volume 85 Number 1 (9 January 2007) Pages 33-37.

√IPENZ 11/25 **Role of steel and cement type on chloride-induced corrosion in concrete.**

Pradhan, B and Bhattacharjee, B. ACI Materials Journal, Volume 104 Issue 6 (November/December 2007) Page 612-619.

√IPENZ 11/26 **Seismic design of steel structures to Eurocode 8.**

EIghazouli, A. The Structural Engineer, Volume 85 Number 12 (19 June 2007) Pages 26-31.

√IPENZ 11/27 **Use of high volumes of fly ash to improve ECC mechanical properties and material greenness.**

Yang, E., Yang, Y and Li, V. ACI Materials Journal, Volume 104 Issue 6 (November/December 2007) Pages 620-628.

√IPENZ 11/28 **Reinforced high strength concrete under the influence of fire.**

Wong, Y.L. The Structural Engineer, Volume 85 Number 12 (19 June 2007) Pages 19-20, 22.

√IPENZ 11/29 **Advantages and possibilities of solid recovered fuel cocombustion in the European energy sector.**

Hilber, T et al. Journal of the Air & Waste Management Association, Volume 57 Issue 10 (October 2007) Pages 1178-1189.

√IPENZ 11/30 **Jane Coston Cycle bridge: a model for managing vibration.**

Black, M and Webster, G. Civil Engineering, Volume 159 Issue 3 (August 2006) Pages 120-125

√IPENZ 11/31 **Hydraulic effects of ice breakup on bridges.**

Beltaos, S et al. Canadian Journal of Civil Engineering, Volume 34 Issue 4 (April 2007) Pages 539-548.

√IPENZ 11/32 **China's drive toward innovation.**

Wolff, A. Issues in Science and Technology, Volume 23 Issue 3 (Spring 2007) Pages 54-62

√IPENZ 11/33 **Aging pipes and drought fuel growth in water/wastewater market: municipalities urged to develop innovative financing schemes.**

Hunter, P. ENR, (26 November 2007) Pages 41, 43-44.

- √IPENZ 11/ 34 **Effective use of condition assessment within asset management.**
Marlow, D and Burn, S. American Water Works Association. Journal, Volume 100 Issue 1 (January 2008) Pages 54-63.
- √IPENZ 11/35 **Aerobic and anaerobic transformations of sulfide in a sewer system field study and model simulations.**
Nielsen, A et al. Water Environment Research, Volume 80 Issue 1 (January 2008) Pages 16-25.
- √IPENZ 11/36 **Energy recovery for water utilities.**
Smith, J. American Water Works Association Journal, Volume 100 Issue 1 (January 2008) Pages 39-41.
- IPENZ 11/37 **Adding throughput, without expanding the footprint.**
Yeppen, R. BioCycle, Volume 49 Issue 1 (January 2008) Pages 24-29.
- √IPENZ 11/38 **Green energy from food wastes at wastewater treatment plant.**
Gray, D et al. BioCycle, Volume 49 Issue 1 (January 2008) Pages 53-59.
- √IPENZ 11/39 **Full disclosure: using transparency to fight climate change.**
Fagotto, E and Graham, M. Issues in Science and Technology, Volume 23 Issue 4 (Summer 2007) Pages 73-79.
- √IPENZ 11/40 **(Mis)understanding green products.**
Fortmeyer, R. ENR, (19 November 2007) Pages 77-81.
- √IPENZ 11/41 **Practical applications for global positioning system data from solid waste collection vehicles.**
Wilson, B et al. Canadian Journal of Civil Engineering, Volume 34 Issue 5 (May 2007) Pages 678-681.
- √IPENZ 11/42 **Promoting low-carbon electricity production.**
Apt, J., Keith, D and Granger, M. Issues in Science and Technology, Volume 23 Issue 3 (Spring 2007) Pages 37-43.
- √IPENZ 11/43 **Sustainability and sustainable buildings.**
Burnett, J. The Hong Kong Institution of Engineers Transactions, Volume 14 Number 3 (September 2007) Pages 1-9.

√IPENZ 11/44 **What's Ahead for 'Green' Plastics.**

Schut, J. *Plastics Technology*, Volume 54 Issue 2 (February 2008) Pages 64-89.
Green engineering and sustainability in the chemical industry.

√IPENZ 11/45 **New life for shredded plastic waste.**

Hoffman, J. *Machine Design*, Volume 80 Issue 3 (2 February 2008) Pages 55-58.
An advanced recycling process for plastic. Developed at Argonne National Laboratory.

√IPENZ 11/46 **Thickened tailings offer effective disposal alternatives**

Palkovits, F. *Engineering & Mining Journal*, Volume 208 Issue 10 (December 2007) Pages 62-67.

√IPENZ 11/47 **Intelligent travel: planning for the revolution.**

Stewart, W. *Civil Engineering*, Volume 160 Issue 1 (February 2007) Pages 39-42.

√IPENZ 11/48 **Performance of high-velocity oxy-fuel-sprayed chromium carbide-nickel chromium coating in an actual boiler environment of a thermal power plant.**

Sidhu, T., Prakash, S and Agrawal, R. *Corrosion*, Volume 63 Issue 9 (September 2007) Pages 828-834.

√IPENZ 11/49 **Noise analysis of power-line communications using spread-spectrum modulation.**

Meng, J. *IEEE Transactions on Power Delivery*, Volume 22 Number 3 (July 2007) Pages 1470-1476.

√IPENZ 11/50 **A simulation study of the effects of VOIP services on selected data traffic under wireline versus wireless expansion scenarios.**

Zahir, S and Al Mahmud, Z. *The Journal of Computer Information Systems*, Volume 48 Issue 1 (Fall 2007) Pages 124-132.

√IPENZ 11/51 **Voice-enabled IT transformation: The new voice technologies.**

Christensen, J and Hughes, B. *IBM Systems Journal*, Volume 46 Issue 4 (October-December 2007) Pages 763-775.

√IPENZ 11/52 **Ten Top Technologies for 2008.**

Pollution Engineering, Volume 40 Issue 1 (January 2008) Pages p18-20.

√IPENZ 11/53 **A contribution to the audit of an air-conditioning system: modelling, simulation and benchmarking.**

André, P et al. *Building Services Engineering Research & Technology*, Volume 29, Issue (February 2008) Pages 85-

√IPENZ 11/54 **Fan vibration specifications.**

DiGiovanni, M and Spearman, T. *ASHRAE Journal*. (February 2008) Pages 14-20.

√IPENZ 11/55 **Protecting critical process fans from catastrophic failure.**

Gutzwiller, L. *Power Engineering*. Volume 111, Issue 7 (July 2007) Pages 26-



Special Focus on..... Water reuse/Greywater

√IPENZ 11/56 **Redwood city delivers recycled water to local businesses.**

Lichty, C., Cummings, G and Chin, R. *American Water Works Association Journal*, Volume 100 Issue 1 (January 2008) Pages 99-101.

√IPENZ 11/57 **Breakpoint chlorination curves of greywater.**

March, J and Gual, M. *Water Environment Research*, Volume 79 Issue 8 (August 2007) Pages 828-832.

√IPENZ 11/58 **Future technologies for reclaimed water : The future of water reuse**

Bastion, R. *Biocycle*, Volume 47 Issue 5 (May 2006) Pages 25-27.

Stakeholders will need to improve monitoring systems, as well as public education, to ensure greater acceptance of indirect potable water reuse practices

√IPENZ 11/59 **Brighter shade of grey.**

McGhee, K. *Australian Geographic*, Issue 85 (January-March 2007) Pages 130-137.

Recycling household wastewater could decrease mains water demand by 30%, but there is also a perception that household behaviour has an influence on the quality of grey water.

IPENZ 11/60 Recycled vertical flow constructed wetland (RVFCW)-a novel method of recycling greywater for irrigation in small communities and households.

Gross, A et al. *Chemosphere*, Volume 66 Issue 5 (2007) Pages 916-923.

Greywater use is becoming more widespread, but raw greywater is often not safe to use. Some pre-treatment is required.

- √ IPENZ 11/61 **Treatment efficiency and stoichiometry of a high-strength graywater.**
Morse, A. Water Environment Research, Volume 79 Issue 13 (December 2007) Pages 2557-
NASA solutions for wastewater reuse in space may be a model for future graywater.
- √ IPENZ 11/62 **Design, construction and evaluation of an ablution water treatment unit in Oman: a case study.**
Prathapar, S. et al. International Journal of Environmental Studies, Volume 63 Issue 3 (June 2006)
Pages 283-292.
Case study of greywater use.
- IPENZ 11/63 Potential for potable water savings by using rainwater and greywater in a multi-storey residential building in southern Brazil.**
Ghis E and Ferreira, D. Building and Environment, Volume 42 Issue 7 (2007) Pages 2512-2522.
- IPENZ 11/64 Chlorination and coagulation as pretreatments for greywater desalination.**
Friedler, E., Katz, I and Dosoretz, C. Desalination, Volume 222 (2008) Pages 38-49.
- IPENZ 11/65 Characterisation and biological treatment of greywater.**
Hernández et al. Water Science and Technology, Volume 56 Issue 5 (2007) Pages 193-200.
- IPENZ 11/66 Greywater recycling: Treatment options and applications.**
Pidou, M et al. Proceedings of the Institute of Civil Engineers: Engineering Sustainability, Volume 160
Issue 3 (2007) Pages 119-131.
- IPENZ 11/67 The road not taken: How traditional excreta and greywater management may point the way to a sustainable future.**
Bracken, P et al. Water Science and Technology: Water Supply, Volume 7 Issue 1 (2007) Pages 219-
227.
- IPENZ 11/68 The potential application of natural zeolite for greywater treatment.**
Widiastuti, N et al. Desalination, Volume 218 (2008) Pages 271-280.
- IPENZ 11/69 Membrane bioreactor technology for the treatment of greywater from a sports and leisure club.**
Merz, C et al. Desalination, Volume 215 (2007) Pages 37-43.
- IPENZ 11/70 Life cycle impact assessment of greywater recycling technologies for new developments.**
Memon, F et al. Environmental Monitoring and Assessment, Volume 129 Issue1-3 (2007) Pages 27-
35.