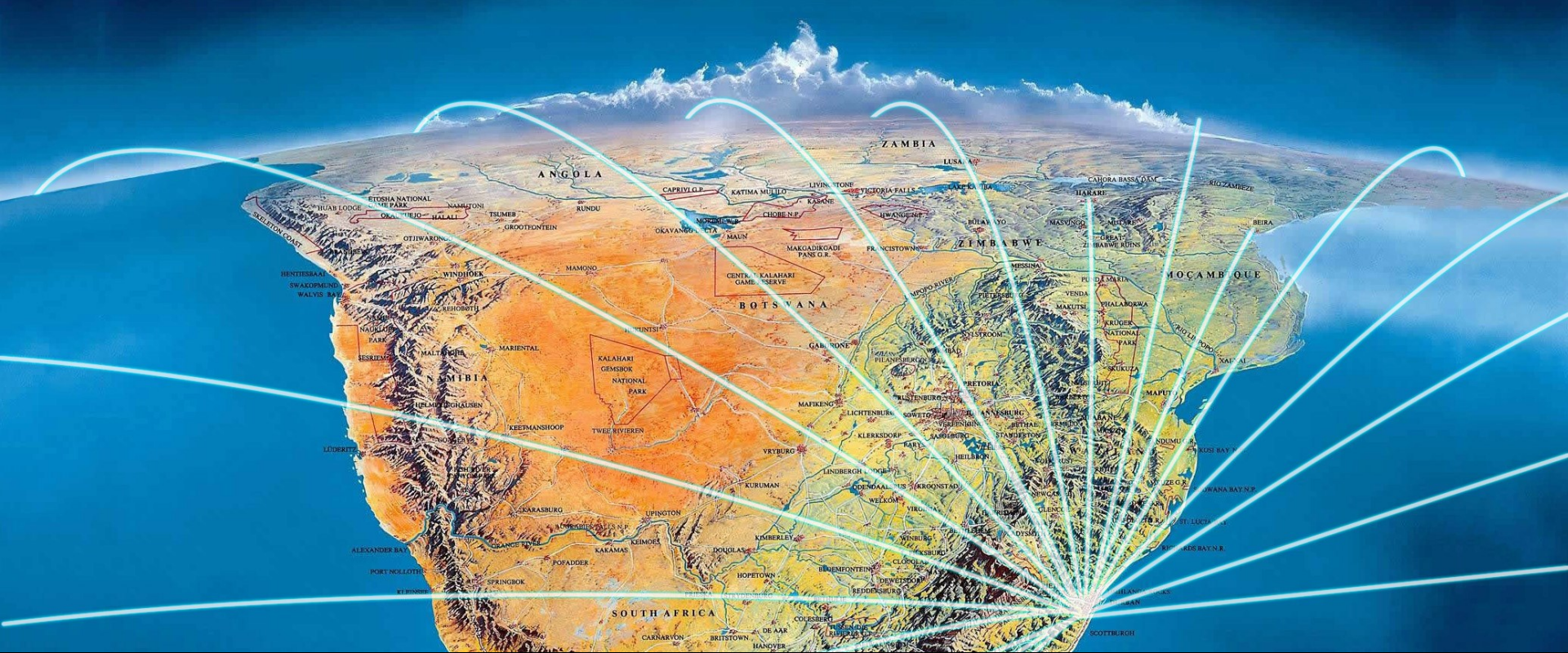


President's Annual Report



SOCIETY OF PRESIDENTS

- 
- Membership
 - Policy
 - Strategy
 - Finance
 - Implementation

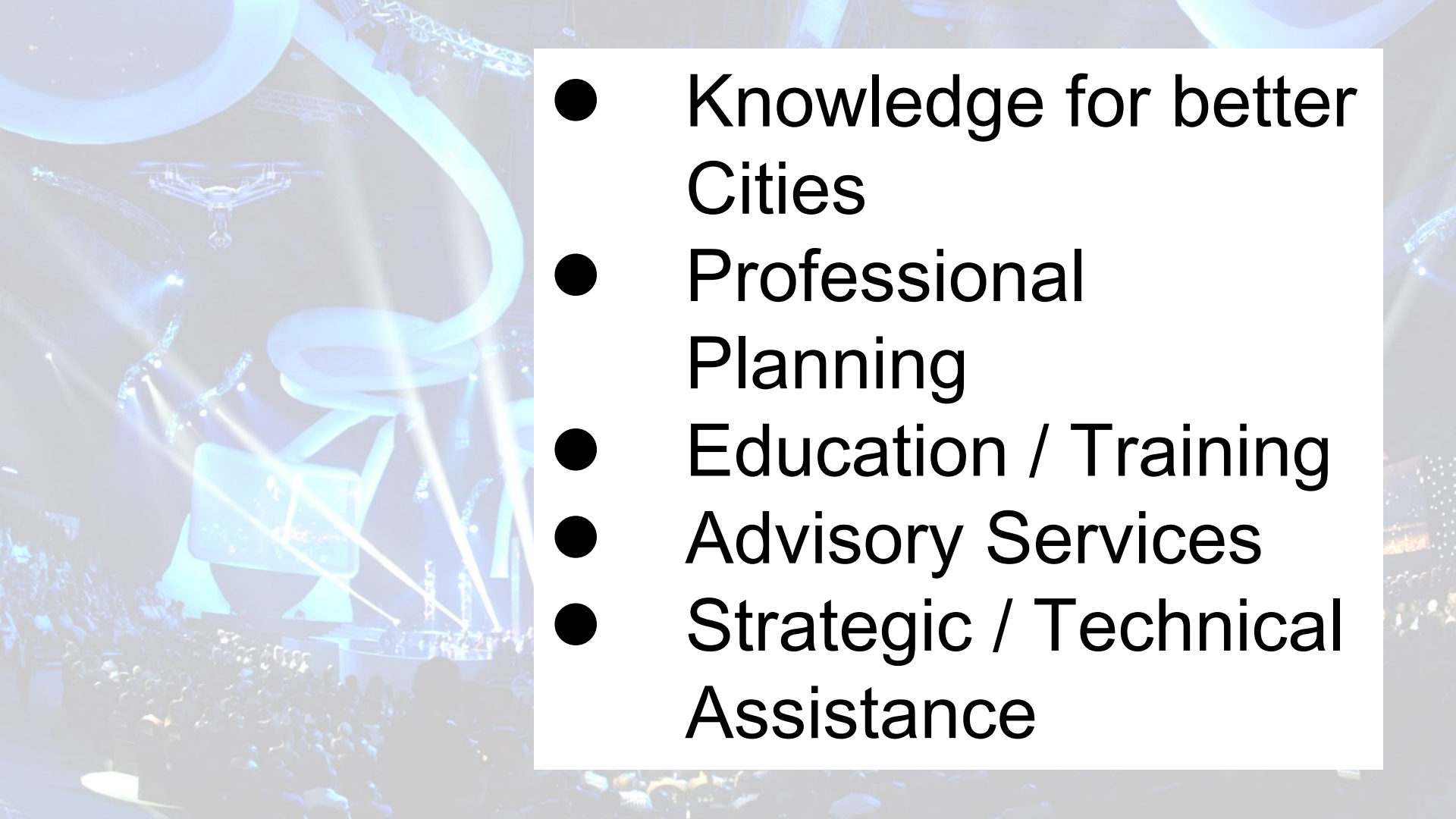


Membership

- ITPs, STATs, UPATs, YPPs...
- Ambassador, Entrepreneur, Scholar Programs
- Policy & Program Committees
- Media & Publications
- ISOCARP Network



Policy

- 
- Knowledge for better Cities
 - Professional Planning
 - Education / Training
 - Advisory Services
 - Strategic / Technical Assistance

NEWTONIAN MECHANICS

$$\begin{aligned}
 v &= v_0 + at \\
 x &= x_0 + v_0 t + \frac{1}{2}at^2 \\
 v^2 &= v_0^2 + 2a(x - x_0) \\
 \Sigma F &= F_{\text{net}} = ma \\
 F_{\text{fric}} &\leq \mu N \\
 a_c &= \frac{v^2}{r} \\
 \tau &= rF \sin \theta \\
 p &= mv \\
 J &= F\Delta t = \Delta p \\
 K &= \frac{1}{2}mv^2 \\
 \Delta U_g &= mgh \\
 W &= \int \vec{F} \cdot d\vec{r} \\
 F_g &= \frac{GMm}{r^2} \\
 P &= Fv \cos \theta \\
 F_s &= -kx \\
 U_s &= \frac{1}{2}kx^2 \\
 T_s &= 2\pi\sqrt{\frac{m}{k}} \\
 T_p &= 2\pi\sqrt{\frac{L}{g}} \\
 T_c &= \frac{1}{f} \\
 F_G &= -\frac{Gm_1m_2}{r^2} \\
 U_G &= -\frac{Gm_1m_2}{r}
 \end{aligned}$$

a = acceleration
 F = force
 f = frequency
 h = height
 J = impulse
 K = kinetic energy
 k = spring constant
 ℓ = length
 m = mass
 N = normal force
 P = power
 p = momentum
 r = radius or distance
 T = period
 t = time
 U = potential energy
 v = velocity or speed
 W = work done on a system
 x = position
 μ = coefficient of friction
 θ = angle
 τ = torque

ELECTRICITY AND MAGNETISM

$$\begin{aligned}
 F &= \frac{kq_1q_2}{r^2} \\
 E &= \frac{F}{q} \\
 U_E &= qV = \frac{kq_1q_2}{r} \\
 E_{\text{avg}} &= -\frac{V}{d} \\
 V &= k\left(\frac{q_1}{r_1} + \frac{q_2}{r_2} + \frac{q_3}{r_3} + \dots\right) \\
 C &= \frac{Q}{V} \\
 C &= \frac{\epsilon_0 A}{d} \\
 U_C &= \frac{1}{2}QV = \frac{1}{2}CV^2 \\
 I_{\text{avg}} &= \frac{\Delta Q}{\Delta t} \\
 R &= \frac{\rho \ell}{A} \\
 V &= IR \\
 R &= R_1 + R_2 + R_3 + \dots \\
 C_p &= C_1 + C_2 + C_3 + \dots \\
 \frac{1}{C_s} &= \frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} + \dots \\
 R_s &= R_1 + R_2 + R_3 + \dots \\
 \frac{1}{R_p} &= \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \dots \\
 F_D &= qvB \sin \theta \\
 F_B &= BIl \sin \theta \\
 B &= \frac{\mu_0 I}{2\pi r} \\
 \phi_m &= BA \cos \theta \\
 \mathcal{E}_{\text{avg}} &= -\frac{\Delta \phi_m}{\Delta t} \\
 \mathcal{E} &= Blv
 \end{aligned}$$

A = area
 B = magnetic field
 C = capacitance
 d = distance
 E = electric field
 \mathcal{E} = emf
 F = force
 ℓ = length
 I = current
 l = length
 P = power
 Q = charge
 q = point charge
 R = resistance
 r = distance
 t = time
 U = potential (stored) energy
 V = electric potential or potential difference
 v = velocity or speed
 ρ = resistivity
 θ = angle
 ϕ_m = magnetic flux

Derivatives

$$\begin{aligned}
 \frac{d}{dx} c &= 0 \quad \text{where } c \text{ is constant} \\
 \frac{d}{dx} \sin x &= \cos x & \frac{d}{dx} \tan x &= \sec^2 x & \frac{d}{dx} \csc x &= -\csc x \cot x \\
 \frac{d}{dx} \cos x &= -\sin x & \frac{d}{dx} \cot x &= -\csc^2 x & \frac{d}{dx} \sec x &= \sec x \tan x \\
 \frac{d}{dx} \sin^{-1} x &= \frac{1}{\sqrt{1-x^2}} & \frac{d}{dx} \tan^{-1} x &= \frac{1}{1+x^2} & \frac{d}{dx} \sec^{-1} x &= \frac{1}{x\sqrt{x^2-1}} \\
 \frac{d}{dx} \cos^{-1} x &= \frac{-1}{\sqrt{1-x^2}} & \frac{d}{dx} \cot^{-1} x &= \frac{-1}{1+x^2} & \frac{d}{dx} \csc^{-1} x &= \frac{-1}{x\sqrt{x^2-1}} \\
 \frac{d}{dx} e^x &= e^x & \frac{d}{dx} \log_a x &= \frac{1}{x \ln a} & & \\
 \frac{d}{dx} a^x &= a^x \ln a & \frac{d}{dx} \ln x &= \frac{1}{x} & & \\
 \frac{d}{dx} \sinh x &= \cosh x & \frac{d}{dx} \tanh x &= \text{sech}^2 x & \frac{d}{dx} \text{sech } x &= -\text{sech } x \tanh x \\
 \frac{d}{dx} \cosh x &= \sinh x & \frac{d}{dx} \coth x &= -\text{csch}^2 x & \frac{d}{dx} \text{csch } x &= -\text{csch } x \coth x \\
 \frac{d}{dx} \sinh^{-1} x &= \frac{1}{\sqrt{1+x^2}} & \frac{d}{dx} \tanh^{-1} x &= \frac{1}{1-x^2} & \frac{d}{dx} \text{sech}^{-1} x &= \frac{-1}{x\sqrt{1-x^2}} \\
 \frac{d}{dx} \cosh^{-1} x &= \frac{1}{\sqrt{x^2-1}} & \frac{d}{dx} \coth^{-1} x &= \frac{1}{1-x^2} & \frac{d}{dx} \text{csch}^{-1} x &= \frac{-1}{x\sqrt{1-x^2}}
 \end{aligned}$$

Integrals

$$\begin{aligned}
 \int x^n dx &= \frac{x^{n+1}}{n+1} & \int (ax+b)^n dx &= \frac{(ax+b)^{n+1}}{a(n+1)} \\
 \int \frac{1}{x} dx &= \ln |x| & \int \frac{1}{ax+b} dx &= \frac{\ln |ax+b|}{a} \\
 \int e^x dx &= e^x & \int e^{ax+b} dx &= \frac{e^{ax+b}}{a} & \int a^x dx &= \frac{a^x}{\ln a} \\
 \int \sin x dx &= -\cos x & \int \cos x dx &= \sin x & \int \csc^2 x dx &= -\cot x \\
 \int \sec^2 x dx &= \tan x & \int \csc x \cot x dx &= -\csc x & \int \sec x \tan x dx &= \sec x \\
 \int \sec x \tan x dx &= \sec x & \int \csc x \cot x dx &= -\csc x & \int \tan x dx &= \ln |\sec x| \\
 \int \tan x dx &= \ln |\sec x| & \int \cot x dx &= \ln |\sin x| & \int \sec x dx &= \ln |\sec x + \tan x| \\
 \int \csc x dx &= \ln |\csc x - \tan x| & \int \csc x dx &= \ln |\csc x - \tan x| \\
 \int \frac{dx}{a^2 - x^2} &= \frac{1}{a} \tan^{-1} \frac{x}{a} \text{ or } -\frac{1}{a} \cot^{-1} \frac{x}{a} & \int \frac{dx}{a^2 + x^2} &= \frac{1}{a} \tan^{-1} \frac{x}{a} \text{ or } -\frac{1}{a} \cot^{-1} \frac{x}{a} \\
 \int \frac{dx}{x\sqrt{x^2 - a^2}} &= \frac{1}{a} \sec^{-1} \frac{x}{a} \text{ or } -\frac{1}{a} \csc^{-1} \frac{x}{a} & \int \frac{dx}{x^2 - a^2} &= \frac{1}{2a} \ln \left| \frac{x-a}{x+a} \right| \\
 \int \frac{dx}{a^2 - x^2} &= \frac{1}{2a} \ln \left| \frac{a+x}{a-x} \right| & \int \frac{dx}{\sqrt{x^2 - a^2}} &= \ln \left| x + \sqrt{x^2 - a^2} \right| \\
 \int \frac{1}{\sqrt{x^2 + a^2}} dx &= \ln |x + \sqrt{x^2 + a^2}| & \int \frac{1}{\sqrt{x^2 - a^2}} dx &= \ln \left| x + \sqrt{x^2 - a^2} \right| \\
 \int \sqrt{a^2 - x^2} dx &= \frac{x\sqrt{a^2 - x^2}}{2} + \frac{a^2}{2} \sin^{-1} \left(\frac{x}{a} \right)
 \end{aligned}$$

Conversions

$$\begin{aligned}
 1 \text{ J} &= 1 \text{ kg} \cdot \text{m}^2 \cdot \text{s}^{-2} \\
 1 \text{ cal} &= 4.184 \text{ J} \\
 1 \text{ atm} &= 760 \text{ mmHg} = 760 \text{ torr} \\
 1 \text{ atm} &= 1.01325 \times 10^5 \text{ Pa} \\
 1 \text{ atm} &= 101.325 \text{ kPa} \\
 1 \text{ D} &= 3.33 \times 10^{-30} \text{ C} \cdot \text{m} \\
 1 \text{ mol of gas at STP occupies } V &= 22.41 \text{ L}
 \end{aligned}$$

Constants

$$\begin{aligned}
 c &= 3.00 \times 10^8 \text{ m} \cdot \text{s}^{-1} \\
 h &= 6.63 \times 10^{-34} \text{ J} \cdot \text{s} \\
 R_H &= 2.18 \times 10^{-18} \text{ J} \\
 N_A &= 6.022 \times 10^{23} \text{ mol}^{-1} \\
 e &= -1.60 \times 10^{-19} \text{ C} \\
 k_B &= 8.99 \times 10^9 \text{ N} \cdot \text{m}^2 \cdot \text{C}^{-2} \\
 m_e &= 9.109 \times 10^{-31} \text{ kg} \\
 R &= 8.314 \text{ J} \cdot (\text{mol} \cdot \text{K})^{-1} \\
 R &= 0.08206 \text{ L} \cdot \text{atm} \cdot (\text{mol} \cdot \text{K})^{-1} \\
 R &= 1.987 \text{ cal} \cdot (\text{mol} \cdot \text{K})^{-1}
 \end{aligned}$$

Equations

$$\begin{aligned}
 E &= h\nu & E &= k_B Q_1 Q_2 / d & \frac{r_1}{r_2} &= \sqrt{\frac{M_1}{M_2}} \\
 \lambda &= h/mv & \mu &= Qr & P_A &= X_A P_A^\circ \\
 c &= \lambda \nu & q &= m \cdot C \cdot \Delta T & (P + n^2 a/V^2)(V - nb) &= nRT \\
 E_k &= \frac{1}{2}mv^2 & d &= PM/(RT) & \Delta T_f &= K_m m \\
 & & P_i &= X_i P_{\text{tot}} & \Delta T_b &= K_{bm} m \\
 \Delta E &= R_H \left(\frac{1}{n_i^2} - \frac{1}{n_f^2} \right) & u &= \sqrt{\frac{3RT}{M}} & C_p &= k_B P_2 \\
 & & & & \pi &= (n/V)RT \\
 & & & & K_p &= K_c (RT)^{\Delta n}
 \end{aligned}$$

$$\begin{aligned}
 \Delta H^\circ_{\text{rxn}} &= \Sigma n \Delta H^\circ_f (\text{products}) - \Sigma n \Delta H^\circ_f (\text{reactants}) \\
 \Delta H^\circ_{\text{rxn}} &= \Sigma n (\text{D of bonds broken}) - \Sigma m (\text{D of bonds formed})
 \end{aligned}$$

Solubility Guidelines	
The following form soluble ionic compounds	Exceptions
NH ₄ ⁺ , Li ⁺ , Na ⁺ , K ⁺ , Rb ⁺ , Cs ⁺	No exceptions
NO ₃ ⁻ , ClO ₄ ⁻ , and ClO ₃ ⁻	No exceptions
Cl ⁻ , Br ⁻ , I ⁻	Ag ⁺ , Hg ₂ ²⁺ , Pb ²⁺
SO ₄ ²⁻	Ca ²⁺ , Sr ²⁺ , Ba ²⁺ , Hg ₂ ²⁺ , Pb ²⁺ , Ag ⁺
The following form insoluble salts	Exceptions
CO ₃ ²⁻ and PO ₄ ³⁻	NH ₄ ⁺ , Li ⁺ , Na ⁺ , K ⁺ , Rb ⁺ , Cs ⁺ (see above)
OH ⁻ and S ²⁻	Ca ²⁺ , Sr ²⁺ , Ba ²⁺ , and NH ₄ ⁺ , Li ⁺ , Na ⁺ , K ⁺ , Rb ⁺ , Cs ⁺ (see above)

Strategy

- Strategic Plan
- Institute “Centre of Urban Excellence
- Constitution Update
- Bylaws & Code of Professional Conduct Update
- Identity Standards

Conversions

$1 \text{ J} = 1 \text{ kg} \cdot \text{m}^2 \cdot \text{s}^{-2}$
 $1 \text{ cal} = 4.184 \text{ J}$
 $1 \text{ atm} = 760 \text{ mmHg} = 760 \text{ torr}$
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 $1 \text{ atm} = 101.325 \text{ kPa}$
 $1 \text{ D} = 3.33 \times 10^{-30} \text{ C} \cdot \text{m}$
 $1 \text{ mol of gas at STP occupies } V = 22.41 \text{ L}$

Constants

$c = 3.00 \times 10^8 \text{ m s}^{-1}$
 $h = 6.63 \times 10^{-34} \text{ J} \cdot \text{s}$
 $R_H = 2.18 \times 10^{-18} \text{ J}$
 $N_A = 6.022 \times 10^{23} \text{ mol}^{-1}$
 $e = -1.60 \times 10^{-19} \text{ C}$
 $k_B = 8.99 \times 10^{-16} \text{ N m}^2 \text{ C}^{-2}$
 $m_e = 9.109 \times 10^{-31} \text{ g}$
 $R = 8.314 \text{ J} \cdot (\text{mol} \cdot \text{K})^{-1}$
 $R = 0.08206 \text{ L} \cdot \text{atm} \cdot (\text{mol} \cdot \text{K})^{-1}$
 $R = 1.987 \text{ cal} \cdot (\text{mol} \cdot \text{K})^{-1}$

Equations

$$E = h\nu$$

$$\lambda = h/mv$$

$$c = \lambda\nu$$

$$E_k = \frac{1}{2}mv^2$$

$$\Delta E = R_H \left(\frac{1}{n_i^2} - \frac{1}{n_f^2} \right)$$

$$E = k_e Q_1 Q_2 / d$$

$$\mu = Qr$$

$$q = m \cdot C \cdot \Delta T$$

$$d = PM/(RT)$$

$$P_i = X_i P_{\text{tot}}$$

$$u = \sqrt{\frac{3RT}{M}}$$

$$\frac{r_1}{r_2} = \sqrt{\frac{M_2}{M_1}}$$

$$r_2 = \sqrt{\frac{M_1}{M_2}} r_1$$

$$P_A = X_A P_A^*$$

$$(P + n^2 a^2 / V^2)(V - nb) = nRT$$

$$\Delta T_f = K_{\text{fm}}$$

$$\Delta T_b = K_{\text{fb}}$$

$$C_p = k_B P_2$$

$$\pi = (n/V)RT$$

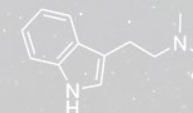
$$K_p = K_c (RT)^{\Delta n}$$

$$\Delta H_{\text{rxn}}^\circ = \sum n \Delta H_f^\circ (\text{products}) - \sum m \Delta H_f^\circ (\text{reactants})$$

$$\Delta H_{\text{rxn}}^\circ = \sum n (\text{D of bonds broken}) - \sum m (\text{D of bonds formed})$$

Solubility Guidelines

The following form soluble ionic compounds	Exceptions
NH_4^+ , Li^+ , Na^+ , K^+ , Rb^+ , Cs^+	No exceptions
Cl^- , Br^- , and I^-	No exceptions
NO_3^- , ClO_4^- , ClO_3^- , ClO_2^-	No exceptions
SO_4^{2-}	Ca^{2+} , Sr^{2+} , Ba^{2+} , Hg_2^{2+} , Pb^{2+} , Ag^+
The following form insoluble salts	Exceptions
CO_3^{2-} and PO_4^{3-}	NH_4^+ , Li^+ , Na^+ , K^+ , Rb^+ , Cs^+ (see above)
OH^- and S^{2-}	Ca^{2+} , Sr^{2+} , Ba^{2+} , and NH_4^+ , Li^+ , Na^+ , K^+ , Rb^+ , Cs^+ (see above)





Finance Model

- 
- The background of the slide is a close-up, slightly blurred image of several gold coins. The coins are stacked and overlapping, with some showing the profile of a person and others showing a map of a continent. The text is overlaid on a white rectangular area on the right side of the image.
- Membership
 - Congresses & Events
 - Advisory & Training Projects
 - Technical Assistance Projects
 - Sponsorship



Implementation

- 
- Congresses & Events
 - Institute
 - Media
 - Strategic / Technical Assistance & Urban Planning Advisory Teams
 - Young Planning Professionals & Intensive Training Programs



Thank you

- 
- An aerial photograph of a coastal city, likely Durban, South Africa. The image shows a wide sandy beach in the foreground, with waves breaking onto the shore. A long pier extends into the ocean. In the background, a dense urban area with various buildings and a harbor with several ships are visible.
- 52nd Annual International Planning Congress
 - Annual General & Bureau Meetings
 - Durban, South Africa
 - September 16, 2016
 - Ric Stephens, ISOCARP President 2015-2018