

Purdue School of Engineering and Technology

Dean's Industry Advisory Council

September 11, 2008

Indiana University Purdue University Indianapolis

Agenda

- **Meeting Convened (Clayton Nicholas, Chair)**
 - Introduction of new members
 - Joe Bentley – IPL
 - Joel Johns – Raytheon Technical Services Company
- **Emerson Electric (Craig Edlin)**
- **ANGEL Learning (Christopher Clapp & Ali Jafari)** - A successful School-Industry Collaboration
- **Subcommittee Reports**
 - General Administration - Dale Jacobs
 - Industry Resources and Networking – Craig Edlin
 - Research – Wayne Eckerle
 - Diversity, Retention and Recruitment – Vince Newsom
- **Music & Arts Technology Department (Dr. David Peters)**
- **School Update (Dean Yurtseven)**
- **Wrap-Up, Adjourn and Networking**

Emerson Electric

Craig Edlin

ANGEL Learning

Christopher Clapp & Ali Jafari

Subcommittee Status

- General Administration - Dale Jacobs
- Industry Resources and Networking – Craig Edlin
- Research – Wayne Eckerle
- Diversity, Retention and Recruitment – Vince Newsom

General Administration Report to DIAC

September 11, 2008

- Vehicle to achieve continuity in DIAC leadership
- Led by DIAC Chair Elect
- School Infrastructure & Operation
- Indoctrination of new DIAC members
- Membership terms & attendance

Subcommittee Members

- Dale Jacobs- Vice Chair
- Karl Kuehner
- Cindy Munerol
- Cary Marston
- Joe Abella

TASK CHECKLIST

September 2008 Status Report

- Appoint Vice-Chair for Next Term
 - Cary Marston accepted position
- Establish Bench Marking Questions
 - Questions finalized.
- Submit BM Questions to Outside DIAC's
 - Dean has sent letters to targeted schools.
 - Three schools have responded.
- Receive BM Responses
 - Conducted three interviews with schools.
 - Waiting for last two interviews.
- Evaluate & Suggest Changes to DIAC

September 2008 Status Report

TASK CHECKLIST (Continued)



Chairman Term (one or two years)

- Recommended one year term for Chairman.
- Vice Chair & next Vice Chair positions provide enough continuity for DIAC.



DIAC Membership Commitment

- Questionnaire to members asking for their opinions on DIAC benefits. Results will be used to evaluate future member commitments.



Required Attendance for Members



Membership Spectrum



New Member "Training"



ICHE Report Review & Comment

- Comments completed & submitted by DIAC.



New Member Review & Recommend to ExComm

- Reviewing new members



Development of Five-Year Plan for DIAC

- Cary Marston (next Vice Chair) developing plan.

Industry Resources and Networking

Subcommittee Report

to

DIAC

September 11, 2008

Craig A. Edlin

Subcommittee Chair

Subcommittee Membership

- Craig Edlin – Emerson HVM
- Brad Wuerch – RJE Interiors
- Bill Klenk - Allison Transmission
- Mike Cyb - EDS
- Cary Marston - Cummins
- Richard Pfile – IUPUI
- Joe Abella - IUPUI

Informal Networking

- Bill Klenk > Jeff Seger, Cary Marston, Stan Bentley, Bill Wylam, Karl Kuehner and Scott Peer
- Brad Wuerch > Cindy Munerol, Jerry Arthur, Guido Neels, J. Michael Brooks, Dave Acton, Jim Wheeler and Jorg Schreiber
- Mike Cyb > Brad Schweibold, Bernie Sepaniak, Mike Winter, Joel Johns, D. Michael Young, and Mike Hayden
- Craig Edlin > Kevin Zaletel, Joe Kitterman, Bruce Wylam, Fred Keller, Frank St. John

DIAC Survey

- Idea of the General & Administration Subcommittee
- Parallels work with Industry Resources Subcommittee
- We will lead the effort from here!

Next Event

- Subcommittee Conference Call
 - Discuss survey and data gathering process
 - Discuss informal networking process
- (Tentative) September 25, 2008 4:00PM
- Confirming e-mail to follow

Sub Committee Report to DIAC

Wayne Eckerle

September 11, 2008

Research Subcommittee Agenda

Continue to advise and guide research activities of the School, especially collaboration with Industry

- Agenda Items for DIAC Research Subcommittee for 2008
 - Guide Industry Relations research marketing plans
 - ☑ Help define School competitive advantage and research strategy
 - ✓ Critique Engineering Professional Practice Plan
 - Work with department Industry Advisory Boards to establish focal points from industry to help with departmental research plans
 - ☑ Critique Departmental Research Plans
 - ☑ Review concepts for the proposed Innovation Center

- Membership
 - Wayne Eckerle – Cummins
 - Jorg Schreiber – White Arrow Consulting
 - Bernie Sepaniak – D&M Holdings
 - Jim Wheeler – Thomas P. Miller & Assoc.
 - Bill Wylam – Electricore
 - Joe Kitterman – Oxygen Education
 - Hasan Akay – Associate Dean for Research & Academic Programs
 - Yaobin Chen – Chair, Electrical & Computer Engineering
 - Jie Chen – Chair, Mechanical Engineering
 - Andrew Hsu – Director, Renewable Energy Center
 - Joe Abella – School Director of Industry Relations

Research Committee

- Met on June 19 and September 5
- Results of June meeting
 - Reviewed Department Research Plan Template
 - Recommended adding details to structure so that Department Plans can be easily rolled up into School Plan
 - Should drive School research strategy and core areas
 - Discussion of Technology & Export Control
 - Committee gave perspective of how some other universities are handling and provided contacts at West Lafayette
 - Advised to adopt flexible research and publication policies
 - Could be competitive disadvantage for School and State
 - Other Schools have an important stake in this issue
 - Informatics deals with dual-use algorithms, for example

- Results of September meeting
 - Reviewed ME Department Research Plan. The ME plan is a really good example for other departments - some improvements identified
 - Emphasize planning for future more and current status a little less
 - Add a narrative to describe goals and tie-in with trends in the marketplace
 - Add hyperlinks to provide reader more detail, if desired, on Areas of Faculty Expertise
 - Add Research Project Abstracts in appendix
 - Add specifics (goals, timeframes) to Roadmap chart-comparisons to some benchmarks would be helpful
 - Recommended adding details to structure so that Department Plans can be easily rolled up into School Plan
 - Plan needs to be in synergy with the School research strategy and core areas
 - DIAC can help garner support from the school and external funding sources if provided specifics

Diversity, Recruitment & Retention Committee Update

- Committee:
 - Vince Newsom
 - Frank St. John
 - Terri Talbert-Hatch
 - Sam White
- Last committee meeting 8/8/2008:

- **Guide and advise the school on DRR matters by..**
 - Reviewing of goals and metrics
 - ➔ – Recommending and supporting programs and activities
 - ➔ – Critiquing schools activities and initiatives
 - ➔ – Providing an industry perspective
 - Providing a link to the school's Diversity Council

Diversity, Recruitment & Retention Committee Update

- **Request to support I-STEM (Indiana-Science Technology Engineering Math)**
 - The I-STEM Resource Network is a partnership of Indiana's public and private higher education institutions, K-12 schools, business, and government. It supports K–12 teachers and leaders working to implement high academic standards towards STEM literacy for all students. It also provides Indiana education leaders with new knowledge about teaching and learning.
 - **Looking for industry input in semi-annual meeting**
 - What is the current state of K-12 engineering/technology education in Indiana?
 - What specifically should be done to improve the K-12 pipeline to both university engineering/technology degree programs and the engineering/technology workforce?
 - How should the initiatives brainstormed in #2 above be implemented?
 - What roles should K-12, university, non-profit and business/industry play in the implementation mentioned above in #3?
 - **Need volunteers**



Diversity, Recruitment & Retention Committee Update

- Dean Yurtseven asked our committee to look at how various initiatives/programs should get supported.
 - Programs (MEAP, ISTI, Pathways, Power, etc.)
 - ➔ – Overall coordination (umbrella) will aid in success
 - Program success determined by...
 - Student follow-up (pre-college and college)
 - Faculty, staff, industry support
 - Maintain metrics of each program (retention and recruitment)
 - Need to track students (pre-college and college)
 - Difficult to make good program assessment without metrics
- ➔ ● Need someone to support collection of metrics

Music & Arts Technology Department

Dr. David Peters
Chair

Dean's Report for DIAC

September 11, 2008

Dean's Report

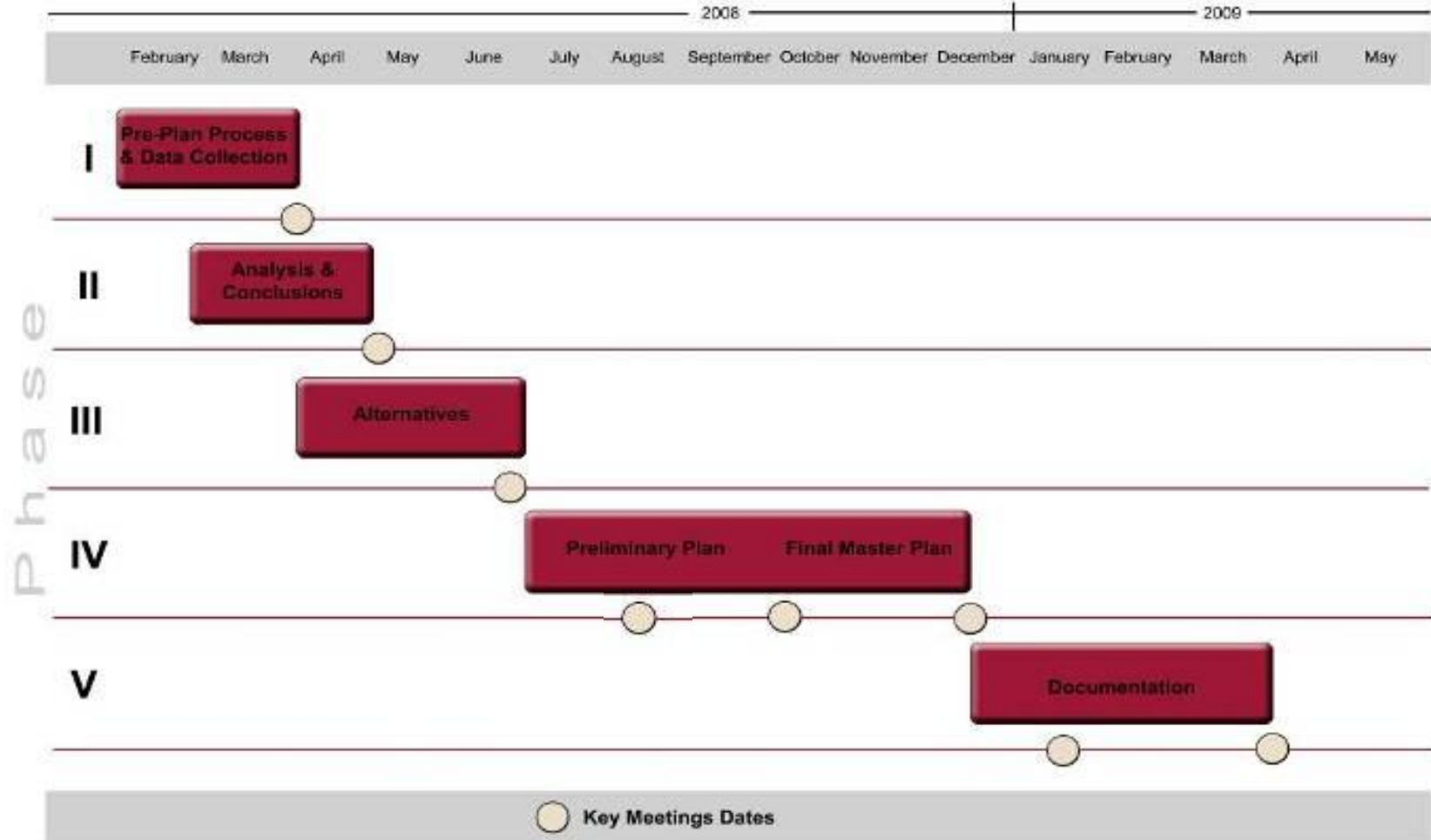
- IU President's Priorities
- IUPUI Goals and Priorities
- School Report
 - General information update
 - Organizational alignments
 - 2007-08 Accomplishments
 - Priorities for 2008-09

2008-09 Priorities for IU System

- Budget submission to legislature for 2009-11
- University campaign
- IU Master Plan
- Control of expenses (healthcare costs)
- Administrative searches
- International strategies
- Research administration portfolio
- Diversity plans
- IU's relationship to Clarion
- Relationships among IU, Purdue, and Ivy Tech
- Statewide economic development and IU RTC
- New academic initiatives (School of Public Health)

- **Research, Scholarship, and Creative Activities**
 - 2007-08 External Grants (IUB: \$191M, PWL: \$292M, IUPUI: \$303M)
 - 29 Signature Centers (\$300K per center for three years)
- **Teaching and Learning**
 - One year retention rate for fall 2007 is expected to be 69.5%.
 - 2007 fall to 2008 spring retention rate is 87.4%.
 - Six year graduation rate for 2002 cohort is 32%.
 - Enrollment shaping
- **Civic Engagement**
 - National awards in civic engagement
 - Translating Research into Practice (Jafari, El-Mounayri)
- **Enhancement of the Resource Base**
 - Fundraising campaign
 - SRUF (Support for Recruitment of Underrepresented Faculty)

IUPUI Master Plan-1



IUPUI Master Plan-2

- **Academic / Research:**
 - 9,439,260 GSF today
 - Up to 5 million GSF new, replacement
 - 75 acres (medical precinct)
- **Residential:**
 - 419,919 GSF Residential, 1,066 Beds
 - Additional 2,500 Beds (10%)
 - 1,000,000 GSF at 400 GSF/Bed
 - 30 acres
 - Or, additional 10,666 Beds (33%)
 - Up to 3,200,000 at 400 GSF / Bed
 - 99 acres
- **Parking:**
 - 16,660 spaces (8,448 surface) today
 - Re-distribute 6,800 surface spaces (75%)
 - 54 acres surface or 12 acres structured
- **Recreation/Athletics:**
 - 30 acres of Recreation/Athletics today
 - Provide up to 30 acres

- **Surveyed 9 of 12 Peer Institutions:**
 - • University at Buffalo
 - • University of Alabama at Birmingham
 - • University of Cincinnati
 - • University of Illinois Chicago
 - • University of Louisville
 - • University of New Mexico
 - • University of South Florida
 - • University of Utah
 - • Virginia Commonwealth University
- **IUPUI has 25% less space / student than the average peer institution (191 ASF / Student vs. 256 ASF)**
- **IUPUI has 26% less space / faculty than the average peer institution (2,347 ASF / Faculty vs. 3,154 ASF)**

- **Targeted enrollment: 35,000**
- **Projected Space Demand (preliminary): 3.5 Million GSF (2.1 million ASF)**
 - Research: 1 million ASF
 - Academic Offices: 300,000 ASF
 - Classrooms: 90,000 ASF
 - Teaching labs: 40,000 ASF
 - Academic non-office 60,000 ASF
 - Assembly/Exhibit: 130,000 ASF
 - Phys Education/Recreation: 90,000 ASF
 - Administrative Offices: 45,000 ASF
 - Physical Plant: 45,000 ASF
 - Administration non-office: 70,00 ASF
 - Campus Center: 80,000 ASF
 - Athletics: TBD

IUPUI Master Plan-3

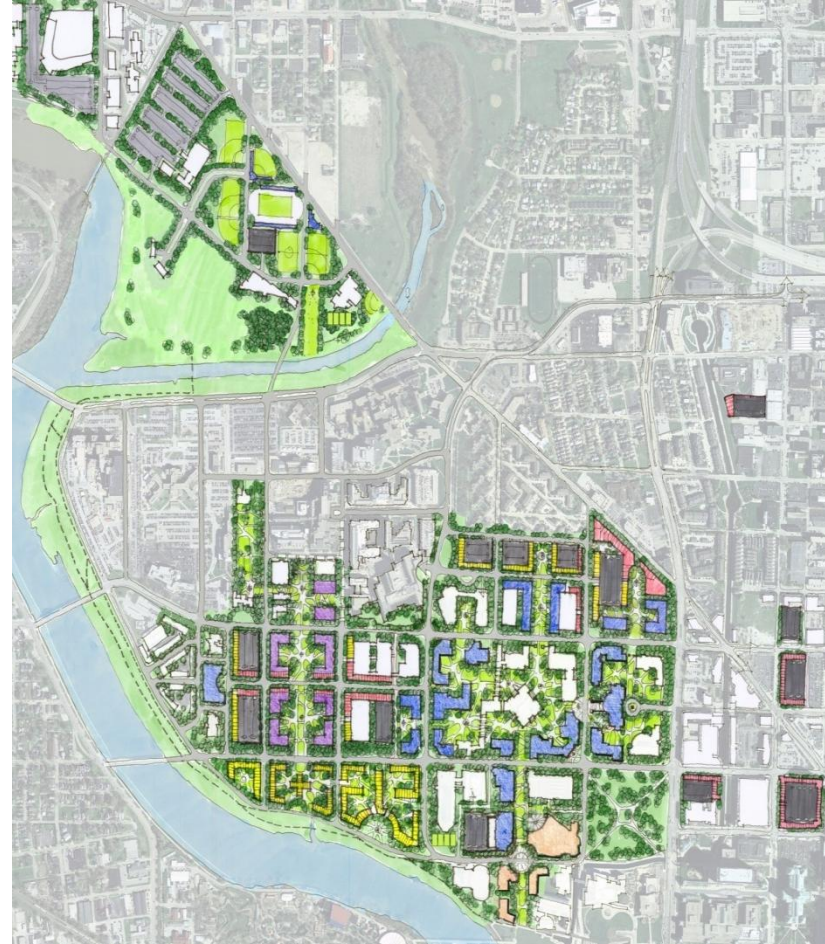
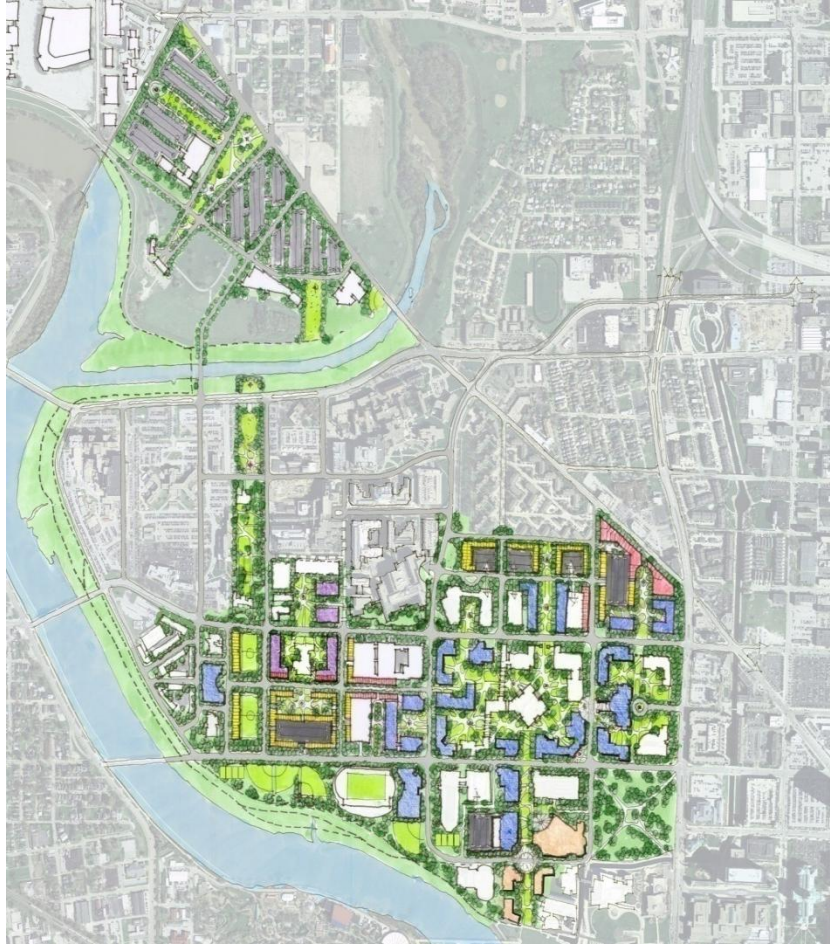
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 - Athletics: TBD

- **Concept Direction**
 - Recreational Waterfront or Riverfront Housing
 - Michigan and New York Streets become 2-way
 - Vermont Street pedestrian-oriented
- **Residential/Mixed Use District**
 - Strengthen edges and spaces within East
- **Campus Academic District**
 - Mixed Use at Indiana Avenue and Cultural Trail
 - University Hall Performance Venue adjacent to Military Park
 - West Research Campus bridging renovated
 - Michigan Street for immediate building sites
 - North – South greenway linking historic resources from Fall Creek to White River through Ball Gardens
 - Residential District adjacent to Lockefield Gardens
 - Long Term Planning for Wishard Hospital Move

IUPUI Master Plan-5



IUPUI Master Plan-6



IUPUI Master Plan-7

IUPUI

SCHOOL OF ENGINEERING
AND TECHNOLOGY

A PURDUE UNIVERSITY SCHOOL
Indianapolis



School Report

- General information update
- Organizational alignments
- 2007-08 accomplishments
- 2008-09 priorities

- **Associate of Science (AS) programs**
 - Architectural Technology
 - Biomedical Engineering Technology
 - Computer and Information Technology
 - Computer Engineering Technology
 - Computer Graphics Technology
 - Construction Engineering Management Technology
 - Electrical Engineering Technology
 - Interior Design Technology
 - Mechanical Engineering Technology
 - Organizational Leadership and Supervision

- **Bachelor of Science (BS) programs**
 - Biomedical Engineering Technology
 - Computer and Information Technology
 - Computer Engineering Technology
 - Computer Graphics Technology
 - Construction Engineering Management Technology
 - Electrical Engineering Technology
 - Interior Design Technology
 - Mechanical Engineering Technology
 - Organizational Leadership and Supervision

- **Designated BS programs**

- Bachelor of Science in Biomedical Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Engineering
- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Motorsports Engineering
- Bachelor of Science in Music Technology (pending approval-IU degree)

- **Master of science programs**

- Master of Science
- Master of Science in Biomedical Engineering
- Master of Science in Engineering
- Master of Science in Electrical and Computer Engineering
- Master of Science in Mechanical Engineering
- Master of Science in Music Technology (IU degree)
- Master of Science in Music Therapy (IU degree)
- Master of Science in Technology

- **PhD programs***
 - Biomedical Engineering
 - Electrical and Computer Engineering
 - Mechanical Engineering

*Jointly administered with Purdue University, WL

Enrollment Data

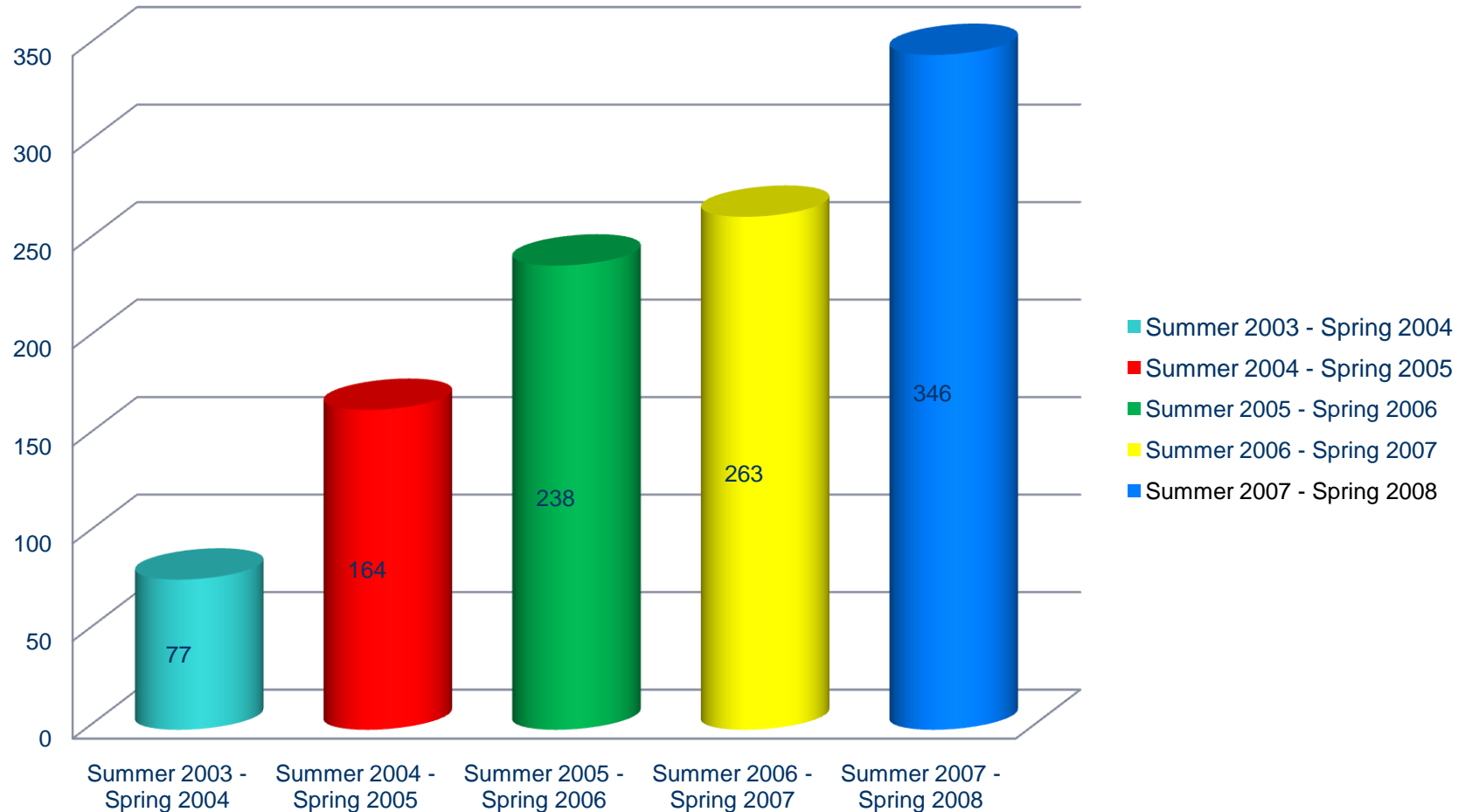
Calendar Year	Fall Semester Headcount	Student Credit Hours	Degrees Awarded			
			AS	BS	MS	Cert
2002-03	2,543	49,795	241	362	36	79
2003-04	2,575	50,394	282	337	30	104
2004-05	2,350	48,809	226	341	60	126
2005-06	2,213	46,221	193	364	45	91
2006-07	2,287 (2,322) with M	43,768 (48,974) with M	136	336	43	80
2007-08	2,444 (5.3%)	49,733 (1.7%)	114 (- 16.2%)	378 (12.5%)	77 (79.0%)	102 (25.5%)
2008-09	2,242*	23,816*				

Enrollment Data

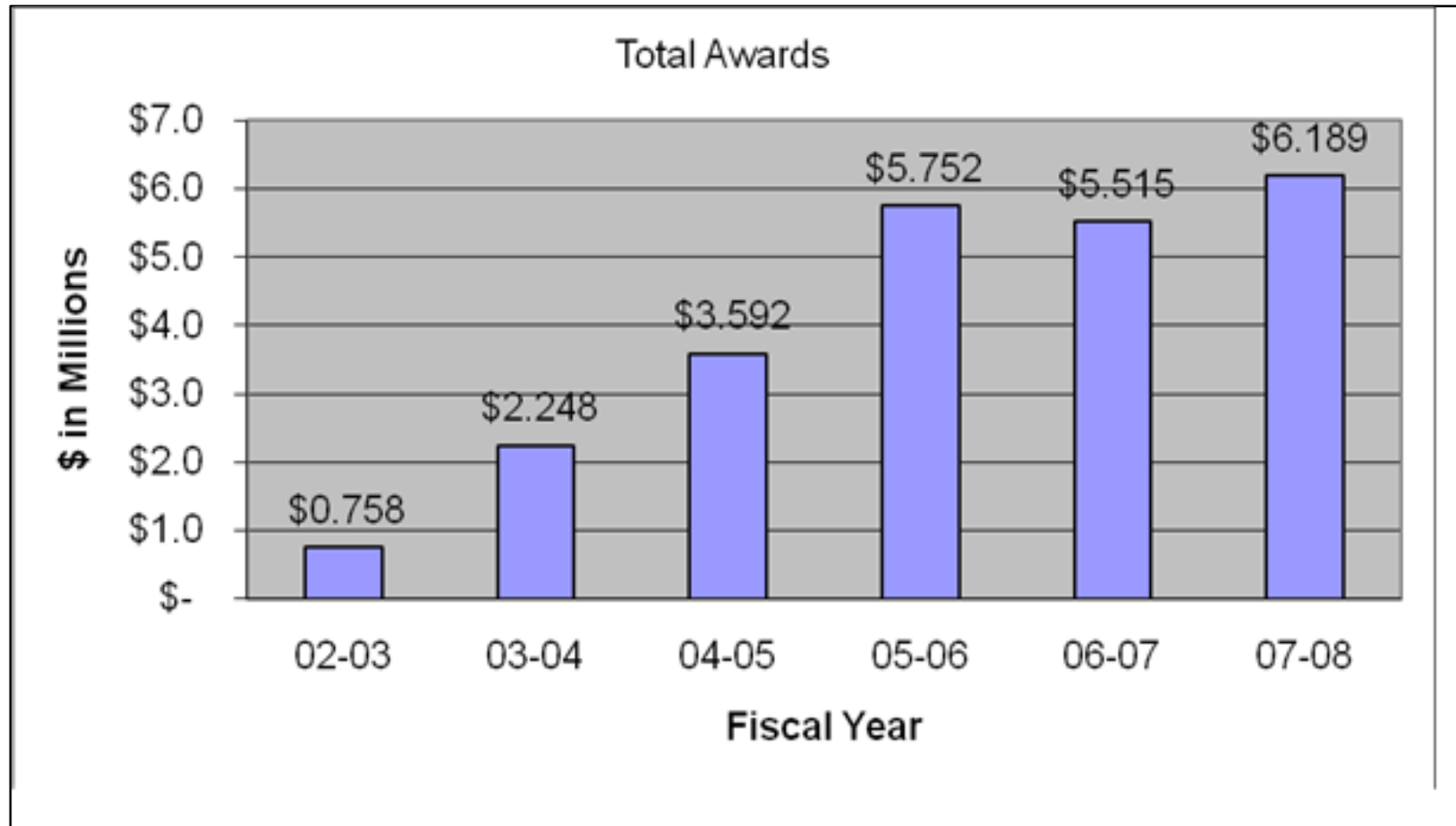
- IUPUI headcount exceeded 30,000 for the first time.
- 72% of undergraduate students are full time.
- Highest number of minority students enrolled (4,551)
- School student headcount was up 3.4% and student credit hours were up 4.0% as compared to last year.
- School has the highest number of non-resident international students (295, 11%)

Internships and Co-ops

Internship and Cooperative Education



Grants and Contracts Data



- Originally developed as an E&T program, extended to entire IUPUI
- Received additional CTE funds from campus together with the Center for Research and Learning (CRL)
- A summer program was held for the first time this year, where each student:
 - received a stipend of \$3,200 for full-time research, and
 - attended the national CIC Conference at Michigan State to present posters
- 27 projects and 81 students were funded (75% E&T) in 2007-08
- New Call for Proposals – Deadline: September 10

Number of:	Fall 2007	Spring 2008	Summer 2008	Total
Projects	13	6	8	27
Mentors/Co-mentors	26	11	16	53
Students	37	12	32	81

Development

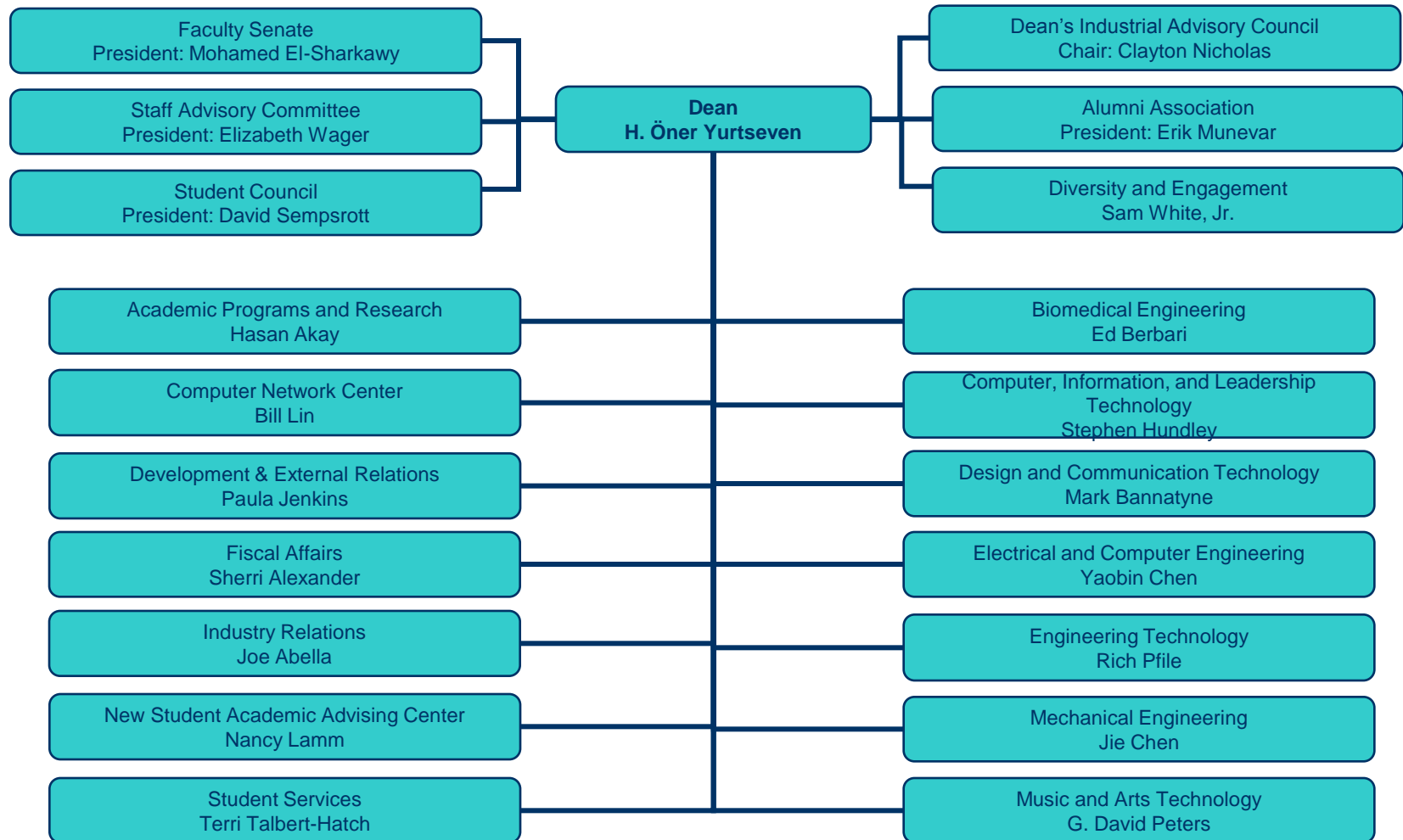
FYE	Cash	In-Kind	Total	New Planned Gift Expectancies	Total Planned Gift Expectancies
00-01	\$ 406,489	\$ 358,229	\$ 764,718		
01-02	\$ 341,875	\$ 153,433	\$ 495,308	\$ 215,000	\$ 215,000
02-03	\$ 393,127	\$ 1,339,239	\$ 1,732,366	\$ 70,000	\$ 335,000
03-04	\$1,956,649	\$ 156,625	\$ 2,113,274	\$ 50,000	\$ 385,000
04-05	\$ 505,006	\$ 62,406	\$ 567,412	\$ 60,000	\$ 445,000
05-06	\$ 662,772	\$ 97,503	\$ 760,275	\$ 100,000	\$ 545,000
06-07	\$ 531,673	\$ 20,553	\$ 552,226	\$ 250,000	\$ 795,000
07-08	\$ 579,113	\$ 24,731	\$ 603,844	\$ 100,000	\$ 895,000

Planning for Comprehensive Campaign

Preliminary Working Goal	\$12M
Priority Setting Underway	
Endowed Chairs and Professorships	
Endowed Scholarships and Fellowships	
International Programs (study abroad, travel and scholarships)	
IUPUI Center for Innovation	
Identification of E&T Campaign Leadership Cabinet	

Fiscal Year	2003-04	2004-05	2005-06	2006-07	2007-08
Cr Hrs (ug)	49,014	46,894	44,319	41,856	42,597
Cr Hrs (gr)	1,380	1,915	1,902	1,912	2,077
Total	50,394	48,809	46,221	43,768	44,674
Stu Fees	8,965,338	9,380,575	9,700,016	10,296,794	11,875,767
State Appr	9,726,765	8,626,727	8,276,130	9,097,873	8,992,459
ICR	428,032	404,941	889,250	1,041,710	1,341,742
Assess	(5,793,612)	(4,915,954)	(5,540,671)	(5,615,428)	(5,865,626)
Total Inc	13,654,804	13,653,599	14,635,375	14,882,929	14,955,760
Compensa	11,448,314	11,719,598	12,771,808	12,588,323	12,355,264
Oth Exp	1,442,262	1,867,469	1,681,698	1,440,536	2,228,858
Total Exp	13,654,804	13,653,599	14,635,375	14,882,929	14,955,760

2008-09 Organizational Chart



Major Accomplishments (2007-08)

- **New degree programs**

- Motorsports Engineering-BS
- 5-year BS/MS program and a dual BSEE/BS in Physics program
- Online MS degree in Facilities Management

- **ASEE National rankings (2007)**

- Third place for technology BS degrees awarded
- First place for technology BS degrees awarded to women
- Third place for technology student enrollment

- **Transfer agreements**

- Ivy Tech, Franklin College, and IU East
- HCIT (Malaysia) and CNA (Canada and Qatar)

Major Accomplishments

- **School received record research funding of \$6.2M**
 - Ghassan Kassab, NIH-NHLBI, “The Role of Shear Stress in Heart Failure”, \$359,952. This is a five-year R01 grant from NIH totaling to \$1.8M.
 - Ghassan Kassab, FlowCo, Inc., “Impedance Planimetry Device Pre-Clinical Validation”, \$233,500.
 - Razi Nalim, Rolls Royce Corporation, “Wave Rotor Combustion Rig Design and Analysis”, \$200,000.
 - Sohel Anwar, Indiana Office of Energy, “Plug-in Hybrid Electric Vehicle (PHEV) Development”, \$132,392.
- **Two new Signature Centers were created.**
 - Transportation Active Safety Institute (TASI)
 - Biomechanics and Biomaterials Research Center

Major Accomplishments

- **Accreditation**

- Interior Design Technology-BS program received full 6-year accreditation from CIDA.
- ABET reaccredited Electrical Engineering and Computer Engineering programs.

- **Our students**

- Fourteen of the 2007 IUPUI Top 100 students were from our school.
- Four of our students made it to Top 10 Man and Top Ten Women list.
- Rachel Meyer (BME) was selected as the Top IUPUI Female student.

Major Accomplishments

- **Faculty recognition**

- Brian King , Steve Rovnyak, and Dong Xie received tenure.
- Brian King, Steve Rovnyak, and Rob Wolter were promoted.
- Charles Turner became the second Chancellor's Professor in the school.
- Ken Rennels was elected to the ABET Board.
- Pat Fox received ASEE McGraw Hill Award.

- **Successful summer programs**

- MEAP , Indiana Summer Transportation Institute, and Pathways to Engineering Camp
- TECH Camp and Power Camp
- Motorsports summer program
- International research internship program at IUPUI
- CGT program in Poland (UITM and UCM)
- OLS programs in Germany and Mexico

Priorities for 2008-09

- **Budget**
 - Balancing the base budget
 - Cash flow
- **Targeted enrollment increase**
 - Recruit more minority and women students
- **Targeted research expansion**
 - Signature Centers and new strategic areas
- **Marketing of the school**
 - New School Website
 - Work with marketing firm
 - Special marketing of motorsports engineering

Priorities-2

- **Quality**

- Initial ABET accreditation visit (CIT and CGT programs)
- Accreditation of Music Technology Program

- **Diversity**

- Closer collaboration with campus

- **Space**

- Planning for IUPUI Innovation Center
- Renovation of ET 201 and ET 202 areas
- Replacement of ET Building roof
- Renovation of SL labs and classrooms

- **Engagement**

- Building up department and school plans for fundraising
- I-STEM
- Closer connection to business and industry

Priorities for 2008-09

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 - Signature Centers and new strategic areas
- **Marketing of the school**
 - New School Website
 - <http://www.engr.iupui.edu/index.shtml>
 - Work with marketing firm
 - Special marketing of motorsports engineering

Important Dates

- September 12, E&T Golf Outing, Saddlebrook Golf Course, Registration 11 AM; Start 12:30
- October 17, 2008: Joint Board of Advisors Retreat, Rolls Royce Training Facility, 12:00 p.m. – 4:30 p.m.
- December 4, 2008: DIAC Meeting, Schumacher Racing, 3:30 – 5:30 p.m.