



**Center for Paper
Business and
Industry Studies**

Annual Report to the
Alfred P. Sloan Foundation

October 15, 2004



CPBIS

Center for Paper Business and Industry Studies
a Scan Foundation Industry Center

I. NARRATIVE: MOST SIGNIFICANT IMPACTS

Founded in Fall 2000 and having received three-year renewal funding in Fall 2003, the Center for Paper Business and Industry Studies (CPBIS) is completing its fourth year operation. During the four year period, the single greatest achievement of CPBIS has been its *broad-based* engagement with the pulp and paper industry in particular and the forest products industry in general. During the past four years, CPBIS has developed an infrastructure that has actively supported a diverse research portfolio, academic and distance learning programs, and industry connectivity at various levels. Included among these initiatives, but by no means exhaustive, are:

- A diverse research portfolio that currently includes 14 CPBIS funded projects (7 of which will submit final reports by the end of December 2004);
- Continuing efforts, with increasing success, to develop collaborative research projects with other Centers;
- A Distinguished Lecture Series which brings high profile speakers to campus to discuss issues and problems related to the forest products industry in general;
- A monthly newsletter that highlights on-going CPBIS research, education, and outreach programs;
- A management workshop, "Development for Enhanced Management", staffed by industry persons and GaTech College of Management faculty and aimed at plant and mill managers;
- An increasingly engaged Industry Advisory Board to broaden and strengthen CPBIS' engagement with the industry;
- Funding students, called CPBIS Fellows, to pursue PhD thesis work on the pulp and paper industry;
- Presentations at individual companies and industry conferences of CPBIS funded project results.

Collectively, CPBIS' research, education, and outreach activities are working to develop an extensive knowledge base and a network of resources that the industry can productively use to meet existing and future competitive challenges. Although not surprising in hindsight, CPBIS has found that building and sustaining industry engagement in the full sense of the word is no easy task. Much of the Center's efforts focuses upon improving industry connectivity in the strong belief that this will generate significant payoffs for our research and education-related programs.

An excellent example of CPBIS's impact is the developing collaboration with Agenda 2020, a committee of Chief Technical Officers (CTO) in the Forest, Wood, and Paper Industry, whose objective is to use technology to improve the Industry's competitiveness and environmental performance. The first Agenda 2020 Summit was held in May 2001 and the second Summit, whose focus was the deployment of breakthrough technologies, met in March 2004. Recognizing that the successful commercial deployment of breakthrough technologies requires information on the economic and societal impacts as well as on successful business models, the Agenda 2020 Committee invited CPBIS to lead a session, "A Societal Assessment of the Agenda 2020 Vision". Subsequently, members of the CPBIS Management Team met with Del Raymond (Co-Chair CTO Committee, Weyerhaeuser) and Ben Thorp (AF&PA Consultant) in early May. From this meeting and a follow-up conference call in July, Dr. Farmer (a co-PI on CPBIS' Black Liquor Gasification Project) drafted a white paper to present to the Agenda 2020 CTO Committee at its September 15 meeting in Washington DC. This document explored possible avenues through which CPBIS could work to support Agenda 2020's objectives. In a short presentation to the CTO Committee, Dr. Farmer outlined the substantive points in the white paper and, in subsequent discussions,



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he and CPBIS Director Dr. Pat McCarthy, who was also in attendance, discussed CPBIS' potential role. The Committee decided to have Dr. Farmer and members of the CPBIS Management Team meet with a sub-group of the CTO Committee at its December meeting in Auburn. At this mini-workshop, CPBIS will present a more detailed outline of the role that it can play in helping the Industry meet Agenda 2020's objectives. If successful, these efforts will complement CPBIS' existing research program and, of equal if not of more importance, CPBIS will have made significant progress in developing a broad-based sustainable relationship with an important segment of the industry.

A second effort that has been successful during the past year are CPBIS Fellows, PhD students writing theses on topics related to the pulp and paper industry. Depending upon resources, the scholarly merit of the thesis work, and its relevance to the industry, CPBIS typically funds 1-2 new Fellows each year. Funding is for one year with an additional year of funding available subject to successful thesis progress. Currently, CPBIS funds three Fellows:

- Kendra Taylor, School of Industrial and Systems Engineering, "Optimal Strategies in Sequential Online B2B Auctions (2nd year of funding)
- Philip Unger, School of History, Technology, and Society, "Innovation in Pulp Bleaching Technology and Changing Environmental Regulations in the United States" (2nd year of funding)
- Aselia Urmanbetova, School of Public Policy, "Market Concentration, Profitability, Regional Clustering and Innovation in the US Pulp and Paper Industry" (1st year of funding)

II. DATA

A. ACADEMIC

1. FACULTY

a. Names of those currently involved in Center programs this academic year (and where they are located, if at a different university from the Center)

Last Name	First Name	University	Academic Years Involved (e.g. AY02-04)
Bennett	Nate	GaTech	AY03-05
Bras	Bert	GaTech	AY01-05
Carmichael	Carol	GaTech	AY01-05
Farmer	Michael	GaTech	AY02-05
Chang	Yih-Long	GaTech	AY01-05
Gaimon	Cheryl	GaTech	AY01-05
Ghosal	Vivek	GaTech	AY04-06
Ghosh	Soumen	GaTech	AY01-05
Giebelhaus	August	GaTech	AY01-05
Kilic	Rehim	GaTech	AY04-05
Li	Haizheng	GaTech	AY04-05



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Lu	Jye-Chyi	GaTech	AY01-05
McCarthy	Patrick	GaTech	AY04-05
Nair-Reichert	Usha	GaTech	AY04-06
Nanko	Hiroki	GaTech	AY02-05
Parsons	Charles	GaTech	AY03-05
Peter	Gary	Univ of FL	AY00-05
Sampat	Bhaven	GaTech	AY03-05
Singhal	Vinod	GaTech	AY01-05
Sinquefield	Scott	GaTech	AY02-05
Stuart	Paul	Ecole Polytechnique	AY01-05
Usselman	Steven	GaTech	AY01-05
White	David	GaTech	AY01-05

b. Other faculty who have been involved in the past but are not now (If names are unavailable, please estimate number.)

Last Name	First Name	University	Academic Years Involved (e.g. AY02-04)
Banerjee	Shomu	GaTech	AY01-03
Challagalla	Goutam	GaTech	AY02-04
Duncan	Roderick	GaTech	AY01-03
Goettschalckx	Marc	GaTech	AY02-04
Karrila	Seppo	GaTech	AY03-04
Liker	Jeff	Univ of Michigan	AY03-04
McGinnis	Leon	GaTech	AY01-04
Newcomb	P.J.	GaTech	AY01-03
Newman	David	GaTech	AY01-03
Ragauskas	Art	GaTech	AY01-02
Realff	Matthew	GaTech	AY02-04
Vallas	Steve	George Mason Univ	AY03-04
Zhou	Chen	GaTech	AY01-03

2. GRADUATE STUDENTS

a. Names of those currently involved in Center programs this academic year

Last Name	First Name	Department	University	Degree	Project Affiliation Type*	Academic Years Involved (e.g. AY02-04)
Dandamudi	Sashi	ISyE	GaTech	PhD	Enrolled	AY03-05
de la Torre	Rafael	FoResources	UGA	PhD	Enrolled	AY00-05
Janssen	Matty	CHE	Ecole Polytechnique	PhD	Enrolled	AY02-05



Lei	Lei	ECON	GaTech	MS	Enrolled	AY04-05
Maharaj	Ashok	HTS	GaTech	PhD	Enrolled	AY03-05
Michaux	Michael	ECON	GaTech	MS	Affiliate	AY04-05
Pratikakis	Nikolaos	CHE	GaTech	PhD	Enrolled	AY03-05
Singh	Rajan	IPST	IPST	MS	Enrolled	AY02-05
Taylor	Kendra	ISyE	GaTech	PhD	Enrolled	AY03-05
Unger	Phillip	HTS	GaTech	PhD	Enrolled	AY02-05
Urmanbetova	Aselia	SPP	GaTech	PhD	Enrolled	AY04-05
Wang	Gewei	ECON	GaTech	MS	Enrolled	AY04-05
Wang	Ni	ISyE	GaTech	PhD	Enrolled	AY03-05

b. Cumulative number of graduate students (approximate) who have been involved in Center programs over the years:

To date, 55 graduate students (PhDs and Masters) have participated in CPBIS programs since the Center's inception.

3. PhD's

a. Names of Ph.D's graduated last academic year (2003-2004), location of jobs, and email addresses (if available).

NOTE: If there are cases in which a student worked in some capacity on an industry studies project but did not subsequently write his or her PhD thesis on an industry studies topic, please identify such students with an "*" or other notation.

Name	School/College Institution	Thesis Title	Current E-mail Address	Job Placement
Charoensiriwath, Chayakrit	ISyE GaTech	Dynamic Learning in Supply Chain with Repeated Transactions and Service	Chayakrit@yahoo.com	Government of Thailand
Kim, Hyoungtae*	ISyE GaTech	Reliability Modeling with Load-Shared Data and Supply Chain Contract Decisions under Uncertain Logistics Operations	htkim@isye.gatech.edu	GaTech Postdoctoral Fellow
Santoso, Tjendera	ISyE GaTech	A Comprehensive Model and Efficient Solution Algorithm for the Design of Global Supply Chains Under Uncertainty	NA	Parahyangan Catholic University, Indonesia
Swafford, Patty*	Management, GaTech	Theoretical Development and Empirical Investigation of Supply Chain Agility	swafford@uta.edu	University of Texas, Arlington
Toivanen, Hannes	History, Technology, and Society GaTech	Learning and Corporate Strategy: The Dynamic Evolution of the North American Pulp and Paper Industry, 1860-1960	hannes.toivanen@lut.fi	South Carelian Institute, Lappeenranta University of Technology



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b. Names of Ph.D's graduated in total between the start of Sloan funding and last year, and updated career info (tenure? promotions? relocations?) if available.

NOTE: If there are cases in which a student worked in some capacity on an industry studies project but did not subsequently write his or her PhD thesis on an industry studies topic, please identify such students with an "*" or other notation.

Not applicable – First graduates in AY03-04.

4. Numbers of workshops, seminars, conferences, or other campus events held this past year

Distinguished Lecture Speakers – 4
Principle Investigator Workshop – 1
Student Workshop – 1
Research Seminar – 1
Hosted Sloan Centers Conference
Industry Advisory Board Meetings – 3
Management Workshop – 1

Noted Examples:

Richard Philips (Senior Vice President for Technology, International Paper), "Imperatives for Manufacturing Success in the Paper Industry"
February 27, 2004

William Boyd (AAAS Science Policy Fellow, US Senate Committee on Environment and Public Works), "New South, New Nature: Regional Industrialization and Environmental Change in the Post-New Deal American South"
April 15, 2004

5. Number of academic papers and books published

(NOTE: please do not count presentations at society meetings unless papers were published in a special volume, and do not include publications in trade journals, which are discussed below in item B-4.)

Number of papers published in peer reviewed journals – 2

Number of papers under review in peer reviewed journals – 11

Noted Publications

G.F. Peter (2002). Sustainable Forestry Practices and Forest Biotechnology – Scientific, Economic and Environmental Impacts. *In* Proceedings of the International Conference on the Fiber Industry and Environmental Biocomplexity, (M. El-Halwagi, J. Hall, U. Hatch, D. Block & E. Geiger, Eds.) Auburn University Environmental Institute, pp. 96-126.



6. Awards or honors received this past year by people associated with your Center

Date	Recipients	Title of Award	Grantor
2003	Toivanen, H.	Graduate Dissertation Fellowship	Helsingen Sanomat Foundation
2004	Toivanen, H.	Graduate Dissertation Fellowship	Finnish Cultural Foundation
2004	Usselman, S.	Harold C. Williamson Mid Career Scholar Prize	Business History Conference
2004	Wang, N.	Freund International Fellowship	American Society for Quality Control

In addition, three PhD students have received CPBIS Dissertation Awards in 2003 and 2004. See Section I for details.

7. Number of new courses or curricula developed, based on the Center's work

a. In the past year

Distance Learning – 13 webcasts to paper mills and companies on topics that range from reliability and maintenance to six sigma.

Management Workshop – 1 five day workshop (May 2003), "Management Development for Enhanced Performance"

b. From start of Sloan funding (including this year)

Distance Learning – 13 webcasts

Management Workshop – 2 five day workshops

Academic course (undergraduate) – 1

B. INDUSTRY

1. Approximate number of visits to companies in the past year.

25

2. Approximate number of companies supplying data in the past year.

18

Number	Company Name
1	Albany International
2	ANC NewsPrint
3	Bowater
4	Georgia Pacific
5	International Paper

Number	Company Name
6	MeadWestveco
7	Pratt Industries
8	Tembec, Canada
9	Temple-Inland
10	Weyerhaeuser



3. Numbers of presentations to industry associations or groups.

14

4. Number of articles in industry trade journals

3

C. GOVERNMENT

1. Number of presentations or testimony given to government agencies or committees in the past year (list names of agencies or committees):

15

Number	Names of Government Agencies/Committees
1	Agenda 2020 (2xs)
2	DOE Review Committee on BLGCC
3	Georgia Water Managers
4	International Recovery Conference
5	IPST Speaker Series
6	National Science Foundation
7	US Forest Service

2. Approximate number of requests for advice or assistance from government organizations in the past year:

1 for biotechnology project
6-8 from for black liquor gasification project

D. MEDIA COVERAGE

1. Number of special articles, features, or op-eds about the Center's work appearing in the news media in the past year:

“Paper Summit Offers Something for Everyone”, *Solutions!* (trade publication)



2. Approximate number of times people from the Center were quoted by the media in the past year:

1 Associate Director Colleen Walker was quoted in “Paper Summit Offers Something for Everyone” published in *Solutions!*.

3. Approximate number of press inquiries in the past year

10 - 15

E. FUNDING

1. On a per annum basis, approximately how much money did the Center receive in the past year from:

a. Industry (total amount from all sources)

\$218,500

b. Government grants (amount per annum from each source)

\$0

c. Other sources (amount per annum from each source, excluding the Sloan Foundation)

Webcast Platform Partners

Rochester Institute of Technology – \$10,000

Webcast Receivables from PIMA – \$50,000

2. Approximate funding received from INDUSTRY sources, in total, since the start of Sloan.
(You may include in-kind funding, if applicable.)

Cash \$1,110,500

In-Kind Industry \$120,000

3. Approximate funding has provided by government, university and other NON-INDUSTRY sources, since the start of Sloan support (excluding the Sloan Foundation)

Associations/Academic Institutions \$75,000

PIMA Alliance \$50,000

Non-industry platform partners \$25,000

In-Kind Associations, Trade Journals, Academic Institutions and other businesses \$1,750,000

IPST In-Kind \$1,300,000

Other In-Kind \$345,000



PAPER INDUSTRY MANAGEMENT ASSOCIATION

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September 25, 2003

Dr. Patrick McCarthy
Director, Center for Paper Business and Industry Studies
Georgia Tech
500 Tenth Street
Atlanta, GA 30318

Dear Pat,

I am again writing in support of the *Center for Paper Business and Industry Studies (CPBIS)*, which is being considered by the Sloan Foundation for renewed funding. In this case, however, I am writing from the perspective of PIMA, which is the Paper Industry Management Association.

I have been associated with PIMA for about 20 years and am the President of the association this year. Working with Jim McNutt, first with PIMA and then as he took on the leadership of CPBIS, has given me a perspective of the Center from the ground floor. PIMA and CPBIS are in partnership in our effort to create excellence in the management and leadership of our industry.

It has become clearer and clearer to me of the need for a center such as CPBIS to research and bring focus to the things that the paper industry should do to become more effective and financially successful in our economy. PIMA and CPBIS are learning how to work together to take the learnings from the research and deliver them to the industry in such a way that the learnings will be effectively applied. That is our goal together.

I truly appreciate that the Sloan Foundation has initiated the development of CPBIS and am hopeful that the funding will be renewed.

Harry Seamans
President Paper Industry Management Association, 2003-2004
Vice President Pulp & Paperboard Division, Potlatch Corporation

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ALBANY
INTERNATIONAL

Frank R. Schmeler
Chairman & Chief Executive Officer

September 19, 2003

Dr. Patrick McCarthy
Director, Center for Paper Business and Industry Studies
Georgia Tech
500 Tenth Street
Atlanta, GA 30318

Dear Pat,

I am writing this letter in support of the *Center for Paper Business and Industry Studies* renewal proposal to the Sloan Foundation.

Our industry has before it many challenges and conventional thinking is not going to help the paper industry solve the complex problems it faces today. We need organizations that promote new thinking and are willing to look rationally at the old paradigms that have brought the industry to its current state and challenge them.

For me, CPBIS fills that need — it provides a critical link of helping the industry collectively understand the issues and work towards logical solutions. Jim McNutt's leadership, in my opinion, provide a "wake up" call to our industry to use sound business practices to restore the paper industry to providing adequate returns to its shareholders, continuing to respect the environment, and focusing on new technologies and products for the future.

I believe CPBIS is uniquely suited to the task and would make a wise choice for future funding by the Sloan Foundation.

Sincerely,



Frank Schmeler