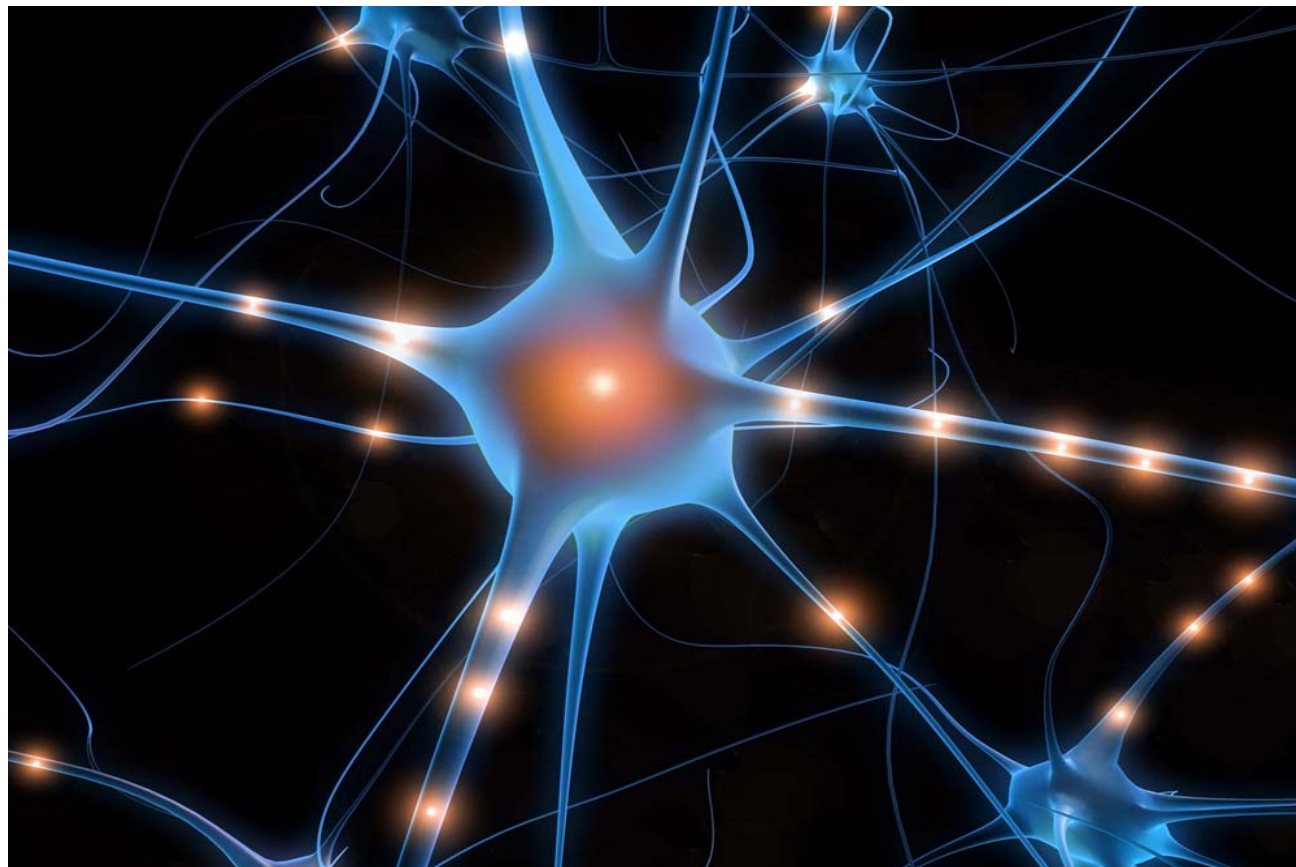


NEWSLETTER

Department of Cell Biology

Volume 2, Issue 1

September 2008



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Chair Speaks Out...

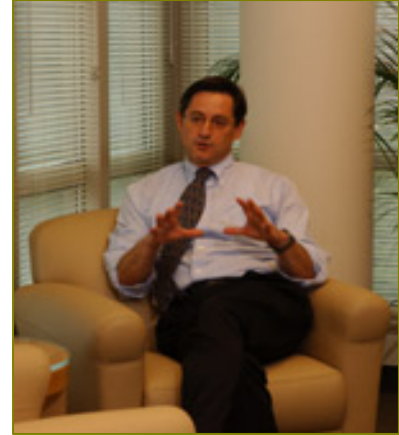
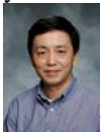


Photo: Dr. Barry Shur, Professor and Chair

Welcome to the 08/09 academic year. This past year was a very busy one for the department, most notably due to the arrival of James Zheng from the Robert Wood Johnson School of Medicine where he was Professor of Neuroscience and Cell Biology. As you likely know, James is internationally renowned for his pioneering studies detailing the mechanisms underlying growth cone dynamics. He couples biochemical and genetic manipulation of developing neurites with state-of-the-art imaging approaches to unravel the intracellular signaling cascades that influence growth cone turning toward or away from chemotactic cues. The arrival of James to the department brings our research active faculty to 24 investigators, 15 tenure track and 9 research track. Notably, the department's NIH funding has increased more than four-fold, while faculty size has remained relatively constant, during the past 11-12 years.



Dr. James Zheng

In conjunction with the Center for Respiratory Health, housed in the Division of Pulmonary Medicine, the department has initiated the recruitment of an epithelial cell biologist. The Center will have members in Cell Biology and Physiology, along with a number of clinical departments, to bring together basic and clinical investigators to focus on the response of the respiratory epithelium to inherited diseases, such as cystic fibrosis, as well as environmental insults, such as smoking and asbestos. The department has offered this position to Elizabeth Smith, an Associate Professor at Dartmouth, who is a rising star in the structure and function of cilia. We hope to be able to convince Beth to relocate to Emory this coming Spring.

This past year we also enjoyed an excellent retreat in the Georgia mountains, thanks to the efforts of Ken Moberg, Subhabrata Sanyal, and Ping Chen, as well as our ongoing Wednesday seminar series and monthly B&G presentations. My thanks to all who organize and participate in these events, which are crucial for enriching the scholarly atmosphere in the Department. Similarly, this past year saw the implementation of the new medical school curriculum, for which we owe much to members of this department for taking the lead in organizing many of the new modules. Special thanks to Win Sale and Victor Faundez, both of whom were awarded the Dean's Award for Excellence in Medical Education in recognition of their efforts in implementing and directing portions of the new curriculum.

Finally, this year saw the appointment of two new joint faculty members; Michael Koval (Pulmonary Medicine) and Sho Ono (Pathology), who join Guy Benian (Pathology), Steven Wolf (Rehab), and Erick Lin (Otolaryngology) as joint appointees in the Department. All of these individuals have maintained very close collaborative ties with the Department, which we recognize by appointing them as joint faculty in Cell Biology. Please join me in welcoming them to the Department.

With my best wishes for another prosperous year for the Department and Institution.



LABS:

BASSELL LAB (415)

CHEN LAB (555)

DUNLAP LAB (415)

ENGLISH LAB (425)

FAUNDEZ LAB (455)

HARTZELL LAB (535)

JOSHI LAB (455)

KOWALCZYK LAB (465)

LIN LAB (535)

LUSKIN LAB (555)

MCKEON LAB (535)

MOBERG LAB (435)

POWERS LAB (455)

SALE LAB (465)

SANYAL LAB (435)

SCOTT LAB (425)

SHUR LAB (475)

ZHENG LAB (555)

NEW HIRES IN CELL BIOLOGY:

David Anderson, Embalming Asst. – PB89 SOM

Samuel Beckerman, Research Spec. – McKeon Lab

Mallory Bowers, Research Spec. – Sanyal Lab

Emilie Dinh, Post-Doc Fel. – Lin Lab

Jocasta Gates MBA Student & Technician – Bassell Lab

Liang Han, Grad Student – Zheng Lab

Sara Jones, Grad Student – Moberg Lab

Chi Wai Lee, Post-Doc Fel. – Zheng Lab

Rachel Lynn, Research Spec. – Zheng Lab

Dan Pong, Grad Student – Bassell Lab

Yu Sun, Post-Doc Fel. – Lin Lab

Pat Whitworth III, Research Spec. – Hartzell Lab

Richard Anderson, Research Spec. – Chen Lab

Kinsley Belle, Research Spec. – Bassell Lab

Dorothy Brown, Admin. Asst./Special Events Mgr.

Yanjie Fan, Grad Student – Zheng Lab

Jiaping Gu, Grad Student – Zheng Lab

Maria Heszele, Grad Student – Chen Lab

Drew Kohlhorst, Post-Doc Fel. – Kowalczyk Lab

Wendy Lo, Research Spec. – Bassell Lab

Amy Pierce, Sr. Research Spec. – Powers Lab

Masataka Saito, Post-Doc Fel. – Kowalczyk Lab

Wenxue, Tang, Assistant Professor – Lin Lab

AWARDS/ACHIEVEMENTS:

-Congratulations to Kinsley Belle who successfully defended his combined BS/MS thesis “The use of cell-penetrating peptides to deliver SMN protein to neuronal cells” on May 5th, 2008, working under the direction of Dr. Wilfried Rossoll and Dr. Gary Bassell.

-Congratulations to Viji Nalavadi, Ph.D., postdoctoral fellow in Gary Bassell's lab recently received a fellowship from FRAXA entitled Regulation of dendritic mRNA transport and translation at the synapse by FMRP phosphorylation

-Congratulations to Sharon Swanger, Neuroscience graduate student in Gary Bassell's lab, who was recently appointed to Emory's Training Grant in Translational Research in Neurology. The title of her proposal is “Regulation of CPEB1-mediated dendritic mRNA localization and translation during seizures”.

-Congratulations to Kristy Welshhans, Ph.D., postdoctoral fellow in Gary Bassell's lab, who recently received a 1.7% score on her NRSA fellowship application, entitled “ZBP1-mediated transport and local translation of beta-actin mRNA in growth cones.”

-Congratulations to Yukio Sasaki, Ph.D. (Instructor) on receipt of the Emory University Research Council award entitled “Identification and analysis of axonal microRNA”.

-Congratulations to Emma Delva, grad student in Andrew Kowalczyk's lab – for being one of 250 graduate students selected to attend the National Institutes of Health Annual Graduate Student Research Festival, September 11-12, 2008.

FELLOWSHIPS:

 **Christine Chiasson (Kowalczyk lab): American Heart Association**

 **Qinghuan Xiao: American Heart Association**

 **Subhabrata Sanyal: NARSAD Young Investigator**

Letter from the EVP:

Dear Colleagues,

There's no doubt among our own faculty, staff, students, and constituents that the Woodruff Health Sciences Center is one of the premier academic health centers in the country as well as a terrific place to work. But it's always nice to have our high standards and excellence confirmed by objective, independent sources. That's just what's happened in the past week – when *U.S. News & World Report* and *The Chronicle of Higher Education* released their prestigious annual rankings and scored Emory among the best nationwide in several critical areas.

U.S. News & World Report released its annual ranking of the best hospitals in America. It should come as no surprise that Emory University Hospital is among the Nation's best – with eight specialties scoring rankings, including seven in the top 20:

Ophthalmology	9	Neurology/Neurosurgery	13
Geriatrics	11	Ear, Nose, Throat	19
Psychiatry	11	Kidney Disease	20
Heart	13	Cancer	47

This outstanding showing was followed by the release of *The Chronicle of Higher Education's* "2008 Great Colleges to Work For" rankings, which again scored Emory among the best in the country in several key areas. We achieved top five status in the "large universities" category in several measures, including:

- Healthy faculty-administration relations
- Teaching environment
- Facilities and security
- Job satisfaction
- Work-life balance
- Confidence in senior leadership
- Internal communications
- Connection to institution and pride
- Physical workplace conditions
- Supervisor or department chair relationship
- Perception and confidence in fair treatment
- Respect and appreciation
- Engagement index

Impressive achievements like these don't happen in a vacuum. It takes the expertise, passion, and commitment of each of us to excel to this degree. Please accept my enthusiastic congratulations and my heartfelt thanks for all that you do to make Emory and the Woodruff Health Sciences Center so successful. You are truly helping us make progress toward our vision of transforming health and healing...together.

Thank you.

Fred

Fred Sanfilippo, MD, Ph.D.
Executive Vice President for Health Affairs, Emory University
CEO, Woodruff Health Sciences Center
Chairman, Emory Healthcare

PUBLICATIONS:

Delva E, Jennings JM, Calkins CC, Kottke MD, Faundez V, Kowalczyk AP. 2008. Pemphigus vulgaris IgG-induced desmoglein-3 endocytosis and desmosomal disassembly are mediated by a clathrin and dynamin-independent mechanism. *J Biol. Chem.* In press.

Li S, Mark S, Radde-Gallwitz K, Schlisner R, Chin MT, Chen P. Hey2 functions in parallel with Hes1 and Hes5 for mammalian auditory sensory organ development. *BMC Dev Bio1.* 2008 Feb 26;8:20.

Wang H, DICTENBERG J, Ku L, Bassell GJ and Feng Y. Dynamic association of FMRP as an mRNP between microtubules and translating polyribosomes. *Molecular Biology of the Cell*, 2008, 19(1):105-114.

Bassell GJ and Gross C. Reducing glutamate signaling pays off in fragile X. *Nature Medicine*, 2008, 14(3):249-250.

Opea GE, McWhorter ML, Rossoll W, Muller S, Krawczak M, Bassell GJ, Beattie CE and Wirth B. Plastin-3 is a protective modifier of SMN1 in spinal muscular atrophy. *Science*, 2008, 320(5875):524-227.

DICTENBERG JB, Antar LN, Li C, Singer RH and Bassell GJ. Deficient activity-dependent mRNA transport in a mouse model of Fragile X syndrome. *Developmental Cell*, 14(6):926-939.

Narayan U, Nalavadi V, Nakamoto M, Thomas G, Ceman S, Bassell GJ and Warren ST. S6K1 phosphorylates and regulates FMRP with the neuronal protein synthesis dependent mTOR signaling cascade. *JBC*, 2008, 283(27):18478-18482.

Bassell GJ and Warren ST. Fragile x syndrome: Loss of mRNA regulation shaping neuronal form and function. *Neuron*, (review) in press.

Hartwig CL, Worrell J, Levine RB, Ramaswami M, Sanyal S. Normal dendrite growth in *Drosophila* motor neurons requires the AP-1 transcription factor. *Dev Neurobiol.* 2008 Jun 11;68(10):1225-1242.

Shur BD. Reassessing the role of protein-carbohydrate complementarity during sperm-egg interactions in the mouse. *Int J Dev Biol.* 2008 52:703-15.

Wassler MJ, Shur BD, Zhou W, Geng Y-J. Characterization of a novel ubiquitin-conjugating enzyme that regulates β 1,4-galactosyltransferase-I in embryonic stem cells. *Stem Cells.* 2008 26:2006-2018.

Yu K, Xiao Q, Cui G, Lee A, Hartzell HC. The best disease-linked Cl⁻ channel hBest1 regulates Ca^v1 (L-type) Ca²⁺ channels via src-homology-binding domains. *J Neurosci.* 2008 28:5660-70.

Sabatier MJ, Redmon N, Schwartz G, English AW. Treadmill training promotes axon regeneration in injured peripheral nerves. *Exp Neurol.* 2008 211:489-93.

Qu Z, Hartzell HC. Bestrophin Cl⁻ channels are highly permeable to HCO₃⁻. *Am J Physiol Cell Physiol*. 2008 294:C1371-7.

Hartzell HC, Qu Z, Yu K, Xiao Q, Chien LT. Molecular physiology of bestrophins: multifunctional membrane proteins linked to best disease and other retinopathies. *Physiol Rev*. 2008 88:639-72.

Aneja R, Liu M, Yates C, Gao J, Dong X, Zhou B, Vangapandu SN, Zhou J, Joshi HC. Multidrug resistance-associated protein-overexpressing teniposide-resistant human lymphomas undergo apoptosis by a tubulin-binding agent. *Cancer Res*. 2008 68:1495-503.

Craige B, Salazar G, Faundez V. Phosphatidylinositol-4-Kinase Type II Alpha Contains an AP-3-sorting Motif and a Kinase Domain That Are Both Required for Endosome Traffic. *Mol Biol Cell*. 2008 19:1415-26.

Wirschell M, Zhao F, Yang C, Yang P, Diener D, Gaillard A, Rosenbaum JL, Sale WS. Building a radial spoke: flagellar radial spoke protein 3 (RSP3) is a dimer. *Cell Motil Cytoskeleton*. 2008 65:238-48.

Jones C, Roper VC, Foucher I, Qian D, Banizs B, Petit C, Yoder BK, Chen P. Ciliary proteins link basal body polarization to planar cell polarity regulation. *Nat Genet*. 2008 40:69-77.

Wang H, Dichtenberg JB, Ku L, Li W, Bassell GJ, Feng Y. Dynamic Association of the Fragile X Mental Retardation Protein as a Messenger Ribonucleoprotein between Microtubules and Polyribosomes. *Mol Biol Cell*. 2008 19:105-14.

Shrivastava-Ranjan P, Faundez V, Fang G, Rees H, Lah JJ, Levey AI, Kahn RA. Mint3/X11 $\{\gamma\}$ Is an ADP-Ribosylation Factor-dependent Adaptor that Regulates the Traffic of the Alzheimer's Precursor Protein from the Trans-Golgi Network. *Mol Biol Cell*. 2008 19:51-64.

ABSTRACTS:

Emma Delva:

My paper entitled, "Pemphigus Vulgaris IgG-induced Desmoglein-3 Endocytosis and Desmosomal Disassembly Are Mediated by a Clathrin- and Dynamin-independent Mechanism" is published in the *Journal of Biological Chemistry*

Delva E, Jennings JM, Calkins CC, Kottke MD, Faundez V, Kowalczyk AP. *J Biol Chem*. 2008 Jun 27;283(26):18303-13.

GRANTS AND CONTRACTS NEWS**New Awards**

Ritu Aneja	'Metastatic Prostrate Cancer Therapy by a Novel Sing-Agent, DOD Total Costs: \$344,250 (3 years)
Gary Bassell	"Baylor Fragile X Center", Baylor/NIH Total Costs: \$824,846 (5 years)
Gary Bassell	"Imaging of the Fragile X Protein and Role in mRNA Translation" National Fragile X Foundation Total Costs: \$9,000 (1 year)
Gary Bassell	"Regulation of Dendritic Transport and Translation at the Synapse by FMRP
Gary Bassell	"Mechanisms of Desmosome Regulation and Disassembly in the Skin Disease Pemphigus"
V. Nalavadi	Phosphorylation", FRAXA Fellowship Total Costs: \$40,000 (1 year)
Ping Chen	"Morphogenesis of the Organ of Corti", NIH Total Costs: \$386,250 (1 year)
Ping Chen	March of Dimes research grant: "Planar cell polarity signaling in vertebrates" DC: ~ Total Costs: \$270,000 (3 years)
Victor Faundez	"Mechanisms of Endosome Trafficking in Neurons", NIH Total Costs: \$342,000 (1 year)
Criss Hartzell	"Retinal Degeneration and Chloride Channels", NIH Total Costs:\$1,549,175 (4 years)
Criss Hartzell	"Bestrophin 3 Regulates Calcium Channels in Heart", AHA Fellowship
Q. Xiao	Total Costs: \$87,272 (2 years)
Andy Kowalczyk	"Regulation of Ve-Cadherin Endocytosis by P120-Catenin", AHA Fellowship
C. Chiasson	\$19,000 (1 year)
Subhabrata Sanyal	"Molecular Mechanisms of Drug Addiction Ap-1 and NFAT Regulate, NARSAD Total Costs: \$60,000 (2 years)
James Zheng	"Mechanisms of Growth Cone Turning in Diffusible Gradient", NIH Total Costs: \$1,077,075 (4 years)
James Zheng	"Directed Growth Cone Migration by Calcium Signals", NIH Total Costs: \$848,000 (4 years)

Upcoming NIH Receipt Dates:

R01 (New):	October 5, February 5
R01 (Renewal, Resubmission)	November 5, March 5
R03, R21 (New):	October 16, February 16
R03, R21 (Renewal, Resubmission):	November 16, March 16
K Series (New):	October 12, February 12
K Series (Renewal Resubmission):	November 12, March 12
F Series – All (Individual NRSA):	December 10, April 10

Internal Deadlines: Proposal forms with a draft of the research plan are due to the Medical School 10 working days (2 weeks) ahead of the dates noted above. The final version of the entire grant is due to the OSP electronic drop box 5 working days (1 week) ahead of the dates noted above. Final hard-copies of grants which cannot be approved online are also due to OSP five days ahead of the deadline.

Other Research News (From OSP Newsletter, March, 2008)

As of April 7, 2008, a new federal law requires scientists to submit journal articles that result from NIH funds to the digital archive PubMed Central upon acceptance for publication. Full texts of the articles will be publicly available and searchable online in PubMed Central no later than 12 months after publication in a journal. This policy applies to you if your peer-reviewed article is based on work directly funded by an NIH grant or cooperative agreement active in Fiscal Year 2008 (10/1/2007 – 9/30/2008) or beyond or directly funded by a contract signed on or after April 7, 2008. Compliance with the new law includes the following three steps:

- 1. Address Copyright.** Before you sign a publication agreement or similar copyright transfer agreement, make sure the agreement allows the article to be submitted to NIH in accordance with the Public Access Policy.
- 2. Submit the article to NIH.** Deposit a copy of the peer-reviewed manuscript in the NIH Manuscript Submission System (NIHMS).
- 3. Cite.** As of May 25, 2008, NIH application, proposals and progress reports must include the PubMed Central reference number when citing an article that falls under the policy and is authored or co-authored by the investigator, or resulted from the investigator's NIH award.

Additional information is available at the NIH Public Access home page, <http://publicaccess.nih.gov> and on the Emory website at http://web.library.emory.edu/IP_rights/NIH_public_access_policy.html.

The following web sites provide important information regarding electronic submission of NIH grants:

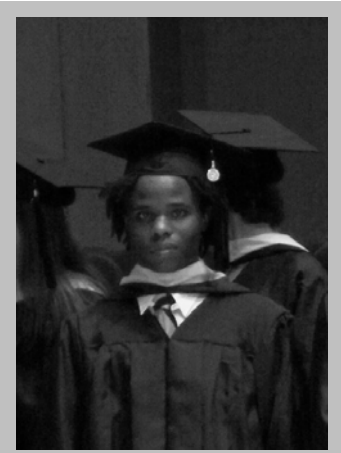
Power Point presentation used for Emory's training classes
<http://www.osp.emory.edu/proposals/esubmit/esubinfo.cfm>

NIH's information and formats
<http://grants.nih.gov/grants/funding/424/index.htm>

Research Administration News, a monthly newsletter which provides timely information about various aspects of research at www.or.emory.edu/newsletter.cfm.

ACCOMPLISHMENTS:

GRADUATES



Kinsley Belle – graduated May 12, 2008



Wendy Lo is a pre-med graduate of Emory University

WEDDING



Christine Chiasson was married on Saturday, June 21, 2008.

NEW ARRIVAL



Ravi Muddashetty, Ph.D. and Viji Nalavadi, Ph.D.
Baby girl, June 6, 2008. Inchara Muddashetty
6 pounds, 3 ounces, and 18 inches.

EVENTS:**HIGHLIGHTS**

- Apr. 23, 2008 Goodwin and Rose Helen Breinin *Lectureship in Basic Sciences*
- May 2 – 3, 2008 Retreat (Ken Moberg) – Forest Hills Mountain Resort, Dahlonega, GA
- Jul. 21, 2008 Reception: Department of Cell Biology for Dr. Elizabeth Smith, Cory Ahonen, and Erin Dymek from Dartmouth College, Hanover, NH
- Sep. 27, 2008 Diabetes Walk – Windward Concourse Airport, Atlanta, GA
- Oct. 25, 2008 Relay / Life Kick-Off, Breast Cancer Awareness White Hall, Emory

B & G SCHEDULE

- Oct 13 Sanyal
Nov 10 Powers
Dec 8 Scott

SEMINAR SCHEDULE

- | | | |
|---------|-------------------|----------------------------|
| Oct. 1 | Keith Berland | Emory Physics |
| Oct. 8 | Andres Garcia | GA Tech |
| Oct. 15 | Claire Walczak | Univ. Indiana |
| Oct. 22 | Asma Nusrat | Emory Pathology |
| Oct. 29 | Vic Rafuse | Dalhousie Univ. |
| Nov. 5 | Jennifer Darnell | Rockefeller Univ. |
| Nov. 12 | Maureen Wirschell | Emory Cell Bio. |
| Nov. 19 | Julie Brill | Hospital for Sick Children |
| Dec 3 | Henri Tiedge | Suny Brooklyn |

Holiday Schedule

Holiday	2008	2009
New Year's Day	Tuesday 01/01/08	Thursday 01/01/09
Martin Luther King Jr.'s Birthday	Monday 01/21	Monday 01/19
Memorial Day	Monday 05/26	Monday 05/25
Independence Day	Friday 07/04	Friday 07/03
Labor Day	Monday 09/01	Monday 09/07
Thanksgiving	Thursday 11/27 Friday 11/28	Thursday 11/26 Friday 11/27
Christmas	Wednesday 12/24 Thursday 12/25	Thursday 12/24 Friday 12/25
New Year's Eve	Wednesday 12/31	Thursday 12/31

In addition to these holidays, employees who are eligible for paid holidays will be eligible for one or two floating holidays per year, depending on their date of employment.

*FEEDBACK REQUESTED: Send to: Dorothy W. Brown
Departmental mail
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Call 404-727-3640*

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