Thank You, Congress, for Passage of 21st Century Cures Act
On behalf of our thousands of volunteers and advocates, we applaud Congress for its bipartisan work to pass the 21st Century Cures Act to provide critical funding for the Cancer Moonshot initiative.

2016 Highlights of Advocates in Action
In 2016, Pancreatic Cancer Action Network advocates raised their voice and moved the needle toward our goal of doubling survival by 2020.

Clinical Trial Finder
clinicaltrials.pancan.org/hcp
The Clinical Trial Finder saves you time and energy by helping you quickly and easily find the most current pancreatic cancer clinical trials information. By registering for an account, you will have access to the most up-to-date and comprehensive database of pancreatic cancer clinical trials in the United States. Our online tool allows you to perform a patient-specific search to locate available trials based on your patients’ needs or a general search to understand the current clinical trials landscape to inform research or trial design.

Know Your Tumor®: Powerful Knowledge, Personal Treatment
pancan.org/knowyourtumor/hcp
Our Know Your Tumor service is an IRB-approved protocol that provides you and your pancreatic cancer patients with a molecular profiling report of their tumor, which includes personalized treatment options – including standard treatments, off-label treatments and available clinical trials. Treatment options are determined after findings of the molecular reports are interpreted by an expert panel, providing valuable insight to support your treatment decisions.

Patient Registry
pancan.org/patientregistry
The Patient Registry is a global online database created to look for patterns in treatments, side effect management and diagnostics that will lead to improved treatment options and outcomes for patients. Whether you have been diagnosed with pancreatic cancer or have provided care for someone with pancreatic cancer, your contributions are meaningful. By joining our quickly growing community and sharing your experiences, you’re giving researchers access to crucial data that will help make discoveries. Together, we will move pancreatic cancer research forward.
Funding opportunities:

Apply now! Pancreatic Cancer Action Network’s 2017 Research Grants Program
https://www.pancan.org/research/grants-program/apply-for-a-pancreatic-cancer-research-grant/

Upcoming deadlines:
Precision Medicine Targeted Grant: Applications due February 15, 2017
Early Detection Targeted Grants (will open Dec. 22): Applications due February 22, 2017
KRAS Travel Scholarship applications accepted on a rolling basis

We are announcing two new funding opportunities – targeted grants in early detection and precision medicine – for up to $1 million each! Please apply today and spread the word! If you or your colleagues do not already receive funding alerts and updates directly from our organization, please email research@pancan.org to be added to our mailing list.

Consortium for Pancreatic Ductal Adenocarcinoma (PDAC) Translational Studies on the Tumor Microenvironment (U01)
Open date (earliest submission date): February 7, 2017
Letter of Intent due date(s): February 7, 2017
Application due date(s): March 7, 2017

The purpose of this funding opportunity announcement (FOA) is to stimulate research in the area of PDAC microenvironment with the ultimate goal of understanding the interaction between tumors and the microenvironment. Studying tumor-microenvironment interactions in PDAC should lead to the discoveries of vulnerabilities that could be exploited in the design of immunotherapies such as cancer vaccines, checkpoint inhibition, cellular therapies and their combination with other precision medicine interventions and radiation therapy.

Resource Center for the Consortium for Pancreatic Ductal Adenocarcinoma (PDAC) Translational Studies (U24)
Open date (earliest submission date): February 7, 2017
Letter of Intent due date(s): February 7, 2017
Application due date(s): March 7, 2017

This funding opportunity announcement (FOA) invites applications to establish a Resource Center (RC) for the Consortium for Pancreatic Ductal Adenocarcinoma (PDAC) Translational Studies on the Tumor Microenvironment (Consortium) that has the ultimate goal to design new immunotherapy and combination interventions in PDAC.

PDX Data Commons and Coordinating Center (PDCCC) for the PDX Development and Trial Centers Research Network (PDXNet) (U24)
Open date (earliest submission date): February 3, 2017
Letter of Intent due date(s): 30 days prior to the application due date
Application due date(s): March 3, 2017

The purpose of this funding opportunity announcement (FOA) is to establish a PDXNet Data Commons and Coordinating Center (PDCCC). PDCCC will interact with and coordinate with the PDX (Patient-Derived Xenograft) Development and Trial Centers Research Network (PDXNet) comprised of four PDX Development and Trial Centers (PDTCs, to be supported by companion FOA, RFA-CA-17-003) in a collaborative network.
PDX Development and Trial Centers (PDTCs) (U54)  
Open date (earliest submission date): February 3, 2017  
Letter of Intent due date(s): 30 days prior to the application due date  
Application due date(s): March 3, 2017  
This funding opportunity announcement (FOA) solicits applications for PDX (patient-derived xenografts) Development and Trial Centers (PDTCs) to serve as the laboratory research units of the PDX Development and Trial Centers Research Network (PDXNet).

The Pancreatic Cancer Detection Consortium (U01)  
Deadlines: May 26, 2017; September 21, 2017; April 6, 2018  
This Funding Opportunity Announcement (FOA) invites applications from multi-disciplinary teams of researchers and clinicians to establish the Pancreatic Cancer Detection Consortium (PCDC) to conduct research to improve the detection of early stage pancreatic ductal adenocarcinoma (PDAC) and characterization of its precursor lesions.

Job opportunities:

Faculty Position: Assistant Professor of Cancer Cell Biology  
https://www.ndsu.edu/biology/job_openings/  
North Dakota State University is looking to hire an Assistant Professor of Cancer Cell Biology who conducts pancreatic cancer research.

Meetings:

2017 Gastrointestinal Cancers Symposium  
http://gicasym.org/  
Meeting: January 19 – 21, 2017, Moscone West Building, San Francisco, CA  
Follow #GI17 on Twitter for the latest at the meeting!  
The Gastrointestinal (GI) Cancers Symposium is a specialized oncology event designed to provide scientific and educational content for members of the GI cancer care and research community. This three-day meeting encompasses the latest science in cancers of the esophagus and stomach; the pancreas, small bowel, and hepatobiliary tract; and the colon, rectum, and anus. This year’s Symposium offers breakout sessions covering cutting-edge and controversial topics, a trainee and early-career networking luncheon with noted faculty members, and the opportunity to view and discuss selected posters with respected faculty members during poster walks.

AACR Annual Meeting 2017  
http://www.aacr.org/Meetings/Pages/MeetingDetail.aspx?EventItemID=105#.WAFbpvkrLIU  
Meeting: April 1 – 5, 2017, Walter E. Washington Convention Center, Washington, D.C., USA  
The AACR Annual Meeting highlights the best cancer science and medicine from institutions all over the world. Attendees are invited to stretch their boundaries, form collaborations, attend sessions outside their own areas of expertise, and learn how to apply exciting new concepts, tools, and techniques to their own research.

Pancreas Club Annual Meeting  
http://pancreasclub.com/annualmeeting/  
Meeting: May 5 – 6, 2017, Drake Hotel, Chicago, IL
Mark your calendars!

**New! ASCO Annual Meeting 2017**
[http://am.asco.org/?cmpid=rm_am_abst_ascoex - all_12-06-16_sub&et_cid=38688115&et_rid=977587026&linkid=ASCO+Annual+Meeting](http://am.asco.org/?cmpid=rm_am_abst_ascoex - all_12-06-16_sub&et_cid=38688115&et_rid=977587026&linkid=ASCO+Annual+Meeting)

*Meeting: June 2 – 6, 2017, McCormick Place, Chicago, IL*

Abstract submission deadline: February 7, 2017


**Aspen Cancer Conference**

*Meeting: July 15 – July 18, 2017, the Gant Conference Center and Resort, Aspen, CO*

The Aspen Cancer Conference, a series of yearly meetings conceived by Drs. Benjamin F. Trump and Curtis C. Harris, was begun in 1985. The Conference has continued to emphasize the relationships between toxicity and carcinogenesis and the identification of novel strategies in cancer prevention, diagnosis, and therapy. It is evident that new paradigms are needed to explain that an increasing number of mutagenic and non-mutagenic agents result in carcinogenesis, that cell injury and death, repair, and inflammation are constant companions of cancer.

**Other community news:**

**Tracking Down One of Cancer's Deadliest Culprits, the Ras Family of Genes**

“Although the role of ras in cancer has been recognized for more than 30 years, all efforts to create drugs to block the mutant Ras protein have thus far failed. But after years of frustration, researchers are finally hammering some cracks in this once impenetrable wall.” This article quotes Frank McCormick, PhD, FRS, grant recipient and member of our Emeritus Scientific and Medical Advisory Board.

**Tyme Technologies Announces Launch of a Pancreatic Research Program with the Mayo Clinic Led by Dr. Martin Fernandez-Zapico**

Tyme Technologies, Inc., a clinical-stage pharmaceutical company focused on developing highly targeted cancer therapeutics for a broad range of oncology indications, announced the launch of a Pancreatic Research Program with the Mayo Clinic led by Dr. Martin Fernandez-Zapico. Dr. Fernandez-Zapico received the Carole and Bob Daly – Career Development Award in 2007.

**Pancreatic Cancer: Could You Be at Risk?**

Our chief medical officer, Victoria Manax Rutson, MD, was the guest columnist for this article about pancreatic cancer signs, symptoms and risk factors.

**Leaving a Legacy: How Patients Launch Their Own Cancer Nonprofits**

This article features the Pancreatic Cancer Action Network founder, Pamela Acosta Marquardt, and her (and others’) stories about launching a cancer nonprofit in honor of a loved one.
**Expert Anticipates Dramatic Advances in Pancreatic Cancer**
Where we are with the use of immunotherapy for melanoma treatment now is where the field is going for pancreatic cancer in the next five or ten years, according to Murray Korc, MD. However, he admits that there must be some significant strides in research to get to that point.

**Nutrition's Role in Managing Pancreatic Cancer Symptoms**
When diagnosed with pancreatic cancer, one of the last things on a patient’s mind may be diet and nutrition, yet these are two key components that medical experts say can affect the outcome of treatment.

**New Drug Formulary Will Help Expedite Use of Agents in Clinical Trials**
The National Cancer Institute (NCI) today launched a new drug formulary that will enable investigators at NCI-designated Cancer Centers to have quicker access to approved and investigational agents for use in preclinical studies and cancer clinical trials. The NCI Formulary could ultimately translate into speeding the availability of more-effective treatment options to patients with cancer.

**Eight Milestones of 2016 in the War on Cancer**
http://www.forbes.com/sites/arleneweintraub/2016/12/28/eight-milestones-of-2016-in-the-war-on-cancer/#77c610fa5b33
Only 22 novel drugs were approved by the U.S. Food & Drug Administration in 2016—way down from the 45 approved in 2015—and just six of the new entries are for treating or diagnosing cancer. Still, 2016 was far from a washout for oncology research. Here were some of the high points of the year in the war on cancer.

**Teaching Reproducible Research Webinar**
https://www.youtube.com/watch?v=jAjlQnLEGN8&list=PL9G4n1wtRTDTqKS4eqQvglWEF3_6pZG7H
The American Statistical Association and the Center for Open Science sponsored a webinar in Nov. 2016 that highlighted how research experts teach undergraduate and graduate students to make their research reproducible. Additionally, the speakers discussed how they instill best practices in students as early as possible. A recording of the webinar is now online as well as slides and a transcript of the webinar.

**Call for Papers: Case Reports in Pancreatic Cancer**
http://www.liebertpub.com/lpages/crpc-cfp-122015/142
http://online.liebertpub.com/doi/pdfplus/10.1089/crpc.2015.29008.cfp
Case Reports in Pancreatic Cancer is an open access journal publishing authoritative case reports on all aspects of pancreatic cancer diagnosis, management, treatment, and outcomes. The Journal enables physicians, surgeons, oncologists, and the team of professionals that determine and administer care to share their experiences and foster communication and collaboration to optimize patient care. The Journal is currently seeking high quality case reports on pancreatic cancer to be published in future issues.
BIOLOGY OF CANCER

Mutant KRAS Enhances Tumor Cell Fitness by Upregulating Stress Granules

- **Journal**: Cell
- **Institution(s)**: New York University School of Medicine, New York, NY, and others
- **Corresponding author(s)**: Dafna Bar-Sagi
- **Pancreatic Cancer Action Network-affiliated author**: Dafna Bar-Sagi, PhD: recipient, 2014 Innovative Grant and 2008 Pilot Grant, co-PI, 2013 Tempur-Pedic – Inaugural Research Acceleration Network Grant in memory of Tim Miller and member, Scientific & Medical Advisory Board
- **Major finding**: The authors’ findings identify a mutant KRAS-dependent cell non-autonomous mechanism that may afford the establishment of a stress-resistant niche that encompasses different tumor subclones. These results should inform the design of strategies to eradicate tumor cell communities.

ER Stress Protein AGR2 Precedes and Is Involved in the Regulation of Pancreatic Cancer Initiation

- **Journal**: Oncogene
- **Institution(s)**: Barts Cancer Institute, Queen Mary University of London, London, UK, and others
- **Corresponding author(s)**: T Crnogorac-Jurcevic
- **Pancreatic Cancer Action Network-affiliated author**: Marina Pasca di Magliano, PhD: recipient, 2009 Paul Mitchell – Career Development Award
- **Major finding**: In the present study, the authors analyzed the role of anterior gradient-2 (AGR2) in the earliest stages of pancreatic neoplasia. Their findings demonstrate that AGR2 induced in endoplasmic reticulum-stressed and inflammatory pre-neoplastic pancreas is a potential marker of cancer progenitor cells with an important functional role in pancreatic ductal adenocarcinoma initiation.

Direct Evidence for Cancer-cell-autonomous Extracellular Protein Catabolism in Pancreatic Tumors

- **Journal**: Nature Medicine
- **Institution(s)**: Massachusetts Institute of Technology, Cambridge, MA, and others
- **Corresponding author(s)**: Matthew Vander Heiden
- **Pancreatic Cancer Action Network-affiliated author**: Dafna Bar-Sagi, PhD: recipient, 2014 Innovative Grant and 2008 Pilot Grant and co-PI, 2013 Tempur-Pedic – Inaugural Research Acceleration Network Grant in memory of Tim Miller (PI: Vonderheide) and member, Scientific & Medical Advisory Board
- **Major finding**: These data suggest that pancreatic cancer cells consume extracellular protein, including albumin, and that this consumption serves as an important source of amino acids for pancreatic cancer cells in vivo.

Myeloid-derived Suppressor Cells and Their Role in Pancreatic Cancer

- **Journal**: Cancer Gene Therapy
- **Institution(s)**: New York University School of Medicine, New York, NY
- **Corresponding author(s)**: George Miller
- **Pancreatic Cancer Action Network-affiliated author**: George Miller, MD: recipient, 2014 Celgene Corporation – Innovative Grant
Major finding: In this article, the authors review myeloid-derived suppressor cells and their contribution to this immunosuppression within the pancreatic tumor microenvironment.

Pancreatic Cancer: Pancreatic Carcinogenesis — Several Small Steps or One Giant Leap?
- Journal: Nature Reviews Gastroenterology & Hepatology
- Institution(s): Harvard University, Cambridge, MA, and others
- Corresponding author(s): Christine Iacobuzio-Donahue
- Pancreatic Cancer Action Network-affiliated author: Christine Iacobuzio-Donahue, MD, PhD: recipient, 2007 Pilot Grant and member, Scientific and Medical Advisory Board
- Major finding: A new study suggests that 16% of pancreatic ductal adenocarcinomas (PDACs) exhibit genetic rearrangements that simultaneously altered two or more cancer driver genes. These findings challenge the current models of PDAC development, but arguably remain compatible with a stepwise tumor progression.

Evaluating the Evaluation of Cancer Driver Genes
- Journal: PNAS
- Institution(s): Johns Hopkins University, Baltimore, MD
- Corresponding author(s): Bert Vogelstein or Rachel Karchin
- Major finding: Sequencing has identified millions of somatic mutations in human cancers, but distinguishing cancer driver genes remains a major challenge. Numerous methods have been developed to identify driver genes, but evaluation of the performance of these methods is hindered by the lack of a gold standard, that is, bona fide driver gene mutations. Here, the authors establish an evaluation framework that can be applied to driver gene prediction methods.

An Ancient, Unified Mechanism for Metformin Growth Inhibition in C. elegans and Cancer
- Journal: Cell
- Institution(s): Massachusetts General Hospital, Boston, MA, and others
- Corresponding author(s): Alexander Soukas
- Major finding: Through genetic screening in C. elegans, the authors uncover two metformin response elements: the nuclear pore complex (NPC) and acyl-CoA dehydrogenase family member-10 (ACAD10). Both restricted nuclear pore transit and upregulation of ACAD10 are required for biguanides to reduce viability in melanoma and pancreatic cancer cells, and to extend C. elegans lifespan. This pathway provides a unified mechanism by which metformin kills cancer cells and extends lifespan, and illuminates potential cancer targets.

ETIOLOGY

A Clinical Prediction Model to Assess Risk for Pancreatic Cancer Among Patients with New-onset Diabetes
- Journal: Gastroenterology
- Institution(s): University of Pennsylvania, Philadelphia, PA, and others
- Corresponding author(s): Yu-Xiao Yang
- Pancreatic Cancer Action Network-affiliated authors:
• Anil Rustgi, MD: co-PI, 2013 Skip Viragh – Inaugural Research Acceleration Network Grant (Goggins) and member, Scientific and Medical Advisory Board
• Andrew Rhim, MD: recipient, 2013 Career Development Award

- **Major finding:** The authors developed a risk model based on widely available clinical parameters to help identify patients with new-onset diabetes who might benefit from pancreatic ductal adenocarcinoma screening.

**Chronic Inflammation Initiates Multiple Forms of K-Ras-independent Mouse Pancreatic Cancer in the Absence of TP53**


- **Journal:** Oncogene
- **Institution(s):** University of Texas, M.D. Anderson Cancer Center, Houston, TX, and others
- **Corresponding author(s):** Craig Logsdon
- **Pancreatic Cancer Action Network-affiliated authors:**
  - Anirban Maitra, MBBS: recipient, 2014 Robert Aronson – Innovative Grant and 2004 Career Development Award and member, Scientific & Medical Advisory Board
  - Craig Logsdon, PhD: member, Emeritus Scientific & Medical Advisory Board
- **Major finding:** Chronic inflammation (CI) is extremely inefficient at inducing pancreatic cancer in the presence of TP53. However, in the absence of TP53, CI leads to the development of several rare K-ras-independent forms of pancreatic cancer, with infrequent pancreatic ductal adenocarcinoma (PDAC). This may help explain the rarity of PDAC in persons with chronic inflammatory conditions.

**Aspirin Use and Reduced Risk of Pancreatic Cancer**


- **Journal:** Cancer Epidemiology, Biomarkers & Prevention
- **Institution(s):** Yale School of Public Health, New Haven, CT, and others
- **Corresponding author(s):** Harvey Risch
- **Major finding:** People who take aspirin for prevention of other diseases likely also reduce their risk of pancreatic cancer. Aside from benefits for both cardiovascular disease and certain cancers, long-term aspirin use entails some risks of bleeding complications, which necessitates risk–benefit analysis for individual decisions about use.

**Telomere Length and Pancreatic Cancer Risk: Breaking Down the Evidence**


- **Journal:** Gut
- **Institution(s):** Catalan Institute of Oncology (ICO), Barcelona, Spain
- **Corresponding author(s):** Eric Duell
- **Major finding:** Telomeres, located at the ends of chromosomes and composed of a protein complex and tandem repeats of TTAGGG nucleotides, function to protect chromosomes from end-to-end fusions, breakage and degradation in dividing cells. Shortened telomeres are thought to contribute to chromosomal instability and age-related diseases in humans, including cancer.

**Helicobacter Pylori Infection, Chronic Corpus Atrophic Gastritis and Pancreatic Cancer Risk in the European Prospective Investigation into Cancer and Nutrition (EPIC) Cohort: A Nested Case-Control Study**


- **Journal:** International Journal of Cancer
- **Institution(s):** Karolinska Institutet, Sweden, and others
Corresponding author(s): Weimin Ye

Major finding: The authors’ findings provided evidence supporting the null association between *H. pylori* infection and pancreatic cancer risk in western European populations. However, the suggested association between chronic corpus atrophic gastritis and pancreatic cancer risk warrants independent verification in future studies, and, if confirmed, further studies on the underlying mechanisms.

**Obesity and Energy Balance in GI Cancer**

- **Journal:** Journal of Clinical Oncology
- **Institution(s):** University of Pennsylvania, Philadelphia, PA, and others
- **Corresponding author(s):** Justin Brown

**Major finding:** The prevalence of overweight (body mass index [BMI], 25 to 29.9 kg/m²) and obesity (BMI ≥ 30 kg/m²) have increased dramatically in the United States. Because increasing BMI is associated with the development of multiple different cancer types, including most GI cancers, providers will frequently encounter patients with GI cancer who are overweight or obese. This area is rich with opportunities to understand how states of energy (im)balance can be favorably altered to promote healthy survivorship.

**Common Germline Variants Within the CDKN2A/2B Region Affect Risk of Pancreatic Neuroendocrine Tumors**

- **Journal:** Scientific Reports
- **Institution(s):** University of Pisa, Pisa, Italy, and others
- **Corresponding author(s):** Federico Canzian

**Major finding:** The authors’ results suggest rs2518719 as a pleiotropic CDKN2A variant associated with the risk of developing pancreatic neuroendocrine tumors.

**EARLY DETECTION, DIAGNOSIS, AND PROGNOSIS**

**Sequential Validation of Blood-Based Protein Biomarker Candidates for Early-Stage Pancreatic Cancer**

- **Journal:** Journal of the National Cancer Institute
- **Institution(s):** The University of Texas MD Anderson Cancer Center, Houston, TX, and others
- **Corresponding author(s):** Sam Hanash

**Pancreatic Cancer Action Network-affiliated authors:**
- Anirban Maitra, MBBS: recipient, 2014 Robert Aronson – Innovative Grant and 2004 Career Development Award and member, Scientific & Medical Advisory Board
- Margaret Tempero, MD: co-PI, Precision Promise Clinical Trial Consortium site and member, Scientific & Medical Advisory Board

**Major finding:** The addition of TIMP1 and LRG1 immunoassays to CA19-9 statistically significantly improves the detection of early-stage pancreatic ductal adenocarcinoma.

**Identification of KIAA1199 as a Biomarker for Pancreatic Intraepithelial Neoplasia**

- **Journal:** Scientific Reports
DNA Testing of Pancreatic Cyst Fluid: Is It Ready for Prime Time? 

- **Journal**: The Lancet Gastroenterology & Hepatology
- **Institution(s)**: University of Pittsburgh Medical Center, Pittsburgh, PA
- **Corresponding author(s)**: Aatur Singhi
- **Pancreatic Cancer Action Network-affiliated author**: Aatur Singhi, MD, PhD: recipient, 2016 Translational Research Grant
- **Major finding**: In this Review, the authors discuss the major cystic lesions of the pancreas and their underlying molecular pathology, current management guidelines for pancreatic cysts, and integration of DNA-based molecular testing within this field.

National Rise of Primary Pancreatic Carcinoid Tumors: Comparison to Functional and Non-Functional Pancreatic Neuroendocrine Tumors

- **Journal**: Journal of the American College of Surgeons
- **Institution(s)**: Harvard Medical School, Boston, MA
- **Corresponding author(s)**: Jennifer Tseng
- **Pancreatic Cancer Action Network-affiliated author**: Jennifer Tseng, MD: recipient, 2006 Samuel Stroum – Young Investigator Award
- **Major finding**: Primary pancreatic carcinoid tumors are increasingly diagnosed. Differentiating pancreatic neuroendocrine tumor subtypes plays an important role in prognostication. Resection remains a critical component of care.

Distal Cholangiocarcinoma and Pancreas Adenocarcinoma: Are They Really the Same Disease? A 13-Institution Study from the US Extrahepatic Biliary Malignancy Consortium and the Central Pancreas Consortium

- **Journal**: Journal of the American College of Surgeons
- **Institution(s)**: Emory University, Atlanta, GA, and others
- **Corresponding author(s)**: Shishir Maithel
- **Pancreatic Cancer Action Network-affiliated author**: Nipun Merchant, MD: PI, 2015 Translational Research Grant and member, Scientific & Medical Advisory Board
- **Major finding**: Distal cholangiocarcinoma (DC) and pancreatic ductal adenocarcinoma (PDAC) are distinct entities. DC has a favorable prognosis compared to PDAC, yet current adjuvant therapy regimens are only associated with improved survival in PDAC, not DC. Thus, treatment paradigms utilized for PDAC should not be extrapolated to DC, despite similar operative approaches, and novel therapies for DC should be explored.

Plasma Circulating Tumor DNA in Pancreatic Cancer Patients Is a Prognostic Marker

- **Journal**: Clinical Cancer Research
- **Institution(s)**: Pitié-Salpêtrière Hospital, Paris, France, and others
- **Corresponding author(s)**: Jean-Baptiste Bachet
Major finding: Circulating tumor DNA (ctDNA) is an independent prognostic marker in advanced pancreatic adenocarcinoma. Furthermore, it arises as an indicator of shorter disease-free survival in resected patients when detected after surgery.

Preoperative Characteristics and Cytological Features of 136 Histologically Confirmed Pancreatic Mucinous Cystic Neoplasms
- Journal: Cancer Cytopathology
- Institution(s): Massachusetts General Hospital, Boston, MA, and others
- Corresponding author(s): Martha Pitman
- Major finding: To the authors’ knowledge, the current study is the largest series to date analyzing the cytological features of histologically confirmed mucinous cystic neoplasms (MCN) of the pancreas. Cytology is insensitive but very specific for detecting a high-risk MCN and outperformed imaging for the detection of high-risk MCN. Endoscopic ultrasound-guided fine-needle aspiration and cytology should be performed on any clinically suspected MCN that is being considered for conservative management.

Intraductal Tubulopapillary Neoplasm of the Pancreas: A Clinicopathologic and Immunohistochemical Analysis of 33 Cases
- Journal: American Journal of Surgical Pathology
- Institution(s): Memorial Sloan Kettering Cancer Center, New York, NY, and others
- Corresponding author(s): David Klimstra
- Major finding: Intraductal tubulopapillary neoplasm (ITPN) is a relatively recently described member of the pancreatic intraductal neoplasm family. ITPN is a distinct clinicopathologic entity in the pancreas. Despite the difficulties of determining the extent of invasive carcinoma in many cases, the overall outcome seems to be relatively favorable and substantially better than that of conventional pancreatic ductal adenocarcinoma, even when only the cases with invasive carcinoma are considered.

Early Pancreatic Cancer Lesions Suppress Pain Through CXCL12-mediated Chemoattraction of Schwann Cells
- Journal: PNAS
- Institution(s): Technische Universität München, Munich, Germany
- Corresponding author(s): Ihsan Ekin Demir or Güralp Ceyhan
- Major finding: Pancreatic ductal adenocarcinoma (PDAC)-derived CXCL12 seems to induce tumor infiltration by Schwann cells during early carcinogenesis and to attenuate pain, possibly resulting in delayed diagnosis in PDAC.

Immunovia Conducts Study of Pancreatic Cancer Early Detection Test
- Company: Immunovia, Lund, Sweden
- Major finding: Sweden-based antibody array diagnostics firm Immunovia said today that it has started a multi-center prospective validation study of its Immray PanCan-d test for the early diagnosis of individuals at high risk for familial pancreatic cancer (FPC). The longitudinal clinical study, called Panfam-1, will use the company’s blood test to analyze 1,000 people at high risk for FPC over a period of three years. The subjects will be recruited at sites in the US and in Europe that offer FPC screening programs.
Mayo Researchers Land Patent for Non-Invasive Pancreatic Cancer Test

The same Mayo Clinic research team that developed the Cologuard DNA-based stool test for colorectal cancer has also been working on similar technology for the early detection of pancreatic cancer. After encouraging early studies, they have now landed a patent for their methods.

TREATMENT

Effect of Selumetinib and MK-2206 vs Oxaliplatin and Fluorouracil in Patients with Metastatic Pancreatic Cancer After Prior Therapy
- Journal: JAMA Oncology
- Institution(s): City of Hope National Medical Center, Duarte, CA, and others
- Corresponding author(s): Howard Hochster
- Pancreatic Cancer Action Network-affiliated authors:
  - Philip Philip, MD, PhD: member, Scientific & Medical Advisory Board
  - Andrea Wang-Gillam, MD, PhD: PI, Precision Promise Clinical Trial Consortium site
  - Andrew Hendifar, MD, MPH: PI, Precision Promise Clinical Trial Consortium site
  - Andrew Lowy, MD: co-PI, 2015 Translational Research Grant, PI, Precision Promise Clinical Trial Consortium site and member, Scientific & Medical Advisory Board
- Major finding: Dual targeting of the MEK and PI3K/AKT pathways downstream of KRAS by selumetinib plus MK-2206 did not improve overall survival in patients with metastatic pancreatic adenocarcinoma for whom gemcitabine-based chemotherapy had failed. This was the first randomized prospective evaluation of mFOLFOX in the US population that showed comparable results to CONKO-003 and PANCREOX.

Leveraging an NQO1 Bioactivatable Drug for Tumor-Selective Use of Poly(ADP-ribose) Polymerase Inhibitors
- Journal: Cancer Cell
- Institution(s): UT Southwestern Medical Center (UTSW), Dallas, TX, and others
- Corresponding author(s): David Boothman
- Pancreatic Cancer Action Network-affiliated authors:
  - David Boothman, PhD: PI, 2015 Translational Research Grant and recipient, 2014 Clinical Continuation Grant and 2012 George & June Block Family Foundation – Innovative Grant
  - Muhammad Beg, MD: co-PI, 2015 Translational Research Grant
- Major finding: Therapeutic drugs that block DNA repair, including poly(ADP-ribose) polymerase (PARP) inhibitors, fail due to lack of tumor-selectivity. When PARP inhibitors and β-lapachone are combined, synergistic antitumor activity results from sustained NAD(P)H levels that refuel NQO1-dependent futile redox drug recycling.

Molecular Pathways: The Necrosome – A Target for Cancer Therapy
- Journal: Clinical Cancer Research
- Institution(s): New York University School of Medicine, New York, NY
- Corresponding author(s): George Miller
Pancreatic Cancer Action Network-affiliated author: George Miller, MD: recipient, 2014 Celgene Corporation – Innovative Grant

Major finding: Understanding the interplay of necroptotic cell death, transformed cells, and the immune system may enable the development of novel therapeutic approaches.

Immune Cytolytic Activity Stratifies Molecular Subsets of Human Pancreatic Cancer

Journal: Clinical Cancer Research
Institution(s): University of Pennsylvania, Philadelphia, PA
Corresponding author(s): Robert Vonderheide
Pancreatic Cancer Action Network-affiliated authors:
- Ben Stanger, MD, PhD: co-PI, 2016 Translational Research Grant and recipient, 2007 Ralph H. Hruban, MD – Career Development Award
- Robert Vonderheide, MD, DPhil: PI, 2013 Tempur-Pedic – Inaugural Research Acceleration Network Grant and PI, Precision Promise Clinical Trial Consortium site and member, Scientific & Medical Advisory Board
Major finding: These data identify a subset of human pancreatic ductal adenocarcinoma (PDA) with high cytolytic T cell activity. Rather than being linked to mutation burden or neoepitope load, immune activation indices in PDA were inversely linked to genomic alterations, suggesting that intrinsic oncogenic processes drive immune inactivity in human PDA. Furthermore, these data highlight the potential importance of immune checkpoints other than PD-L1/PD-1 as therapeutic targets in this lethal disease.

Phase 2 Placebo-Controlled, Double-Blind Trial of Dasatinib Added to Gemcitabine for Patients with Locally-Advanced Pancreatic Cancer

Journal: Annals of Oncology
Institution(s): University of Glasgow, Glasgow UK, and others
Corresponding author(s): T. R. J. Evans
Major finding: Dasatinib is a competitive inhibitor of Src kinase, which is overexpressed in pancreatic ductal adenocarcinoma (PDAC) tumors. Dasatinib failed to show increased overall survival or progression-free survival in patients with locally advanced PDAC.

Phase I/II Study of Refametinib (BAY 86-9766) in Combination with Gemcitabine in Advanced Pancreatic Cancer

Journal: Targeted Oncology
Institution(s): Erasme University Hospital, Brussels, Belgium, and others
Corresponding author(s): Jean-Luc Van Laethem
Major finding: Refametinib potently inhibits MEK1/2, part of the MAPK signaling pathway. Refametinib plus gemcitabine was well tolerated, with a promising objective response rate, and had an acceptable safety profile and no pharmacokinetic interaction. There was a trend towards improved outcomes in patients without detectable KRAS mutations that deserves future investigation.

Lipid-modified G4-decoy Oligonucleotide Anchored to Nanoparticles: Delivery and Bioactivity in Pancreatic Cancer Cells

Journal: Scientific Reports
Institution(s): University of Udine, Udine, Italy, and others
Corresponding author(s): S. Vogel or L. E. Xodo
Major finding: In this study the authors report a new delivery strategy for a G4-decoy oligonucleotide that sequesters MAZ, a transcription factor essential for KRAS transcription. It is based on the use of palmitoyl-oleyl-phosphatidylcholine (POPC) liposomes functionalized with lipid-modified G4-decoy oligonucleotides and a lipid-modified cell penetrating TAT peptide. The potency of the strategy in pancreatic cancer cells is demonstrated by cell cytometry, confocal microscopy, clonogenic and qRT-PCR assays.

T-Cell Transfer Therapy Targeting Mutant KRAS in Cancer
- Institution(s): National Cancer Institute, National Institutes of Health, Bethesda, MD
- Corresponding author(s): Steven Rosenberg
- Major finding: The authors identified a polyclonal CD8+ T-cell response against mutant KRAS G12D in tumor-infiltrating lymphocytes obtained from a patient with metastatic colorectal cancer. The infusion of CD8+ cells targeting mutant KRAS mediated effective antitumor immunotherapy against a cancer that expressed mutant KRAS G12D and HLA-C*08:02.

Industry news:

MabVax Therapeutics Expands Phase I Clinical Trial Investigation for Patients with Pancreatic Cancer to Include HonorHealth Research Institute
- Company: MabVax Therapeutics Holdings, Inc., San Diego, CA
- Major finding: MabVax Therapeutics Holdings, Inc., a clinical-stage oncology drug development company, announces the expansion of the Company's MVT-5873 phase I clinical trial to include the HonorHealth Research Institute located in Scottsdale, Arizona. HonorHealth Research Institute joins Memorial Sloan Kettering Cancer Center site in New York, and the Sarah Cannon Research Institute sites in Nashville, Tennessee and, Sarasota, Florida as phase I clinical trial sites for MabVax's fully human therapeutic antibody therapy. MabVax's MVT-5873 is a fully human antibody discovered from the immune response of cancer patients vaccinated with an antigen-specific vaccine during a Phase I trial at Memorial Sloan Kettering Cancer Center.

Novocure Presents Second Cohort of Phase 2 Pilot PANOVA Trial Results Suggesting Tumor Treating Fields Plus Nab-Paclitaxel and Gemcitabine may be Safe as First-Line Treatment and may Improve One-Year Survival Rate of Patients with Advanced Pancreatic Cancer
- Company: Novocure, St. Helier, Jersey Isle
- Major finding: Novocure presented data from its phase 2 pilot PANOVA clinical trial at its research and development day suggesting that Tumor Treating Fields (TTFields) plus first-line chemotherapies nab-paclitaxel and gemcitabine may be tolerable and safe in patients with advanced pancreatic cancer.

Novel Pancreatic Cancer Treatment Granted Orphan Drug Status
- Company: Ability Pharmaceuticals, Barcelona, Catalonia, Spain
Major finding: Ability Pharmaceuticals, a drug development biopharmaceutical company specialized in oncology, announced that has received orphan-drug designation (ODD) for ABTL0812 from the US Food and Drug Administration (FDA) for the treatment of pancreatic cancer. ABTL0812 causes cell death by autophagy through the overexpression of TRIB3, an endogenous Akt regulator.

ARMO BioSciences' Immunotherapy AM0010 Receives Orphan Designation in Europe for the Treatment of Pancreatic Cancer

- **Company:** ARMO BioSciences, Inc., Redwood City, CA
- **Major finding:** ARMO BioSciences, Inc., a clinical-stage immuno-oncology company, announced that the European Commission (EC) has granted the Company's lead investigational immuno-oncology drug AM0010 (PEGylated Interleukin-10) Orphan designation for the treatment of pancreatic cancer.

**CANCER CONTROL, SURVIVORSHIP, AND OUTCOMES RESEARCH**

Health-Related Quality of Life in Patients with Metastatic Pancreatic Cancer

- **Journal:** Journal of Gastrointestinal Cancer
- **Institution(s):** Virginia Mason Medical Center, Seattle, WA, and others
- **Corresponding author(s):** Vincent Picozzi
- **Pancreatic Cancer Action Network-affiliated author:**
  - Vincent Picozzi, MD: PI, Precision Promise Clinical Trial Consortium site and member, Scientific & Medical Advisory Board
- **Major finding:** Patients who experienced partial response or stable disease with 1L nab-paclitaxel plus gemcitabine had improved general and pancreatic pain scores and no clinically meaningful deterioration in quality of life compared with patients who had not yet initiated chemotherapy.

Pancreatic Cancer Management and Treatment Landscape Awareness of Gastroenterologists: Results from US Physician Surveys Conducted in 2013 and 2015

- **Journal:** Journal of Gastrointestinal Cancer
- **Institution(s):** CE Outcomes, LLC, Birmingham, UK, and others
- **Corresponding author(s):** Gregory Salinas
- **Major finding:** As gastroenterologists are frequently the first physicians to disclose a diagnosis of pancreatic cancer, education is needed to improve familiarity with current available treatments, clinical trials, and emerging therapies and resources to advise their patients.

The Risk of Being Depressed Is Significantly Higher in Cancer Patients Than in the General Population: Prevalence and Severity of Depressive Symptoms Across Major Cancer Types

- **Journal:** European Journal of Cancer
- **Institution(s):** University Medical Center Leipzig, Leipzig, Germany, and others
- **Corresponding author(s):** T.J. Hartung
- **Major finding:** Patients with pancreatic, thyroid and brain tumors showed the highest prevalence, whereas patients with prostate cancer and malignant melanoma had the lowest levels of
depressive symptoms. The authors’ results help clinicians identify cancer patients in need of psychosocial support when navigating in the growing survivor population.