

AMP Publications Committee Annual Report, 2021

COMMITTEE MEMBERS:

Chair	Larissa V. Furtado, MD
<i>JMD</i> Editor-in-Chief	Barbara A. Zehnauer, PhD
Member	Jennifer Dien Bard, PhD
Member	Juehua Gao, MD, PhD
Member	Arivarasan Karunamurthy, MBBS, MD
Junior Member	Benjamin Kukull, MD
Member	Thuy L. Phung, MD, PhD
Member	Ronald M. Przygodzki, MD
Member	Paul G. Rothberg, PhD
Member	Daniel E. Sabath, MD, PhD
Member	Patricia Tsang, MD, MBA
<i>JMD</i> Managing Editor	Emily Essex
<i>JMD</i> Scientific Editor	Chhavi Chauhan, PhD

PURPOSE SUMMARY: Members of the Publications Committee are appointed by the Board to serve up to six (6) two-year, renewable terms, and a junior member to serve a two-year term.

- The Publications Committee has certain responsibilities for AMP's official journal, *The Journal of Molecular Diagnostics (JMD)*, which is co-owned by the American Society for Investigative Pathology (ASIP), including advisory to AMP's Board and ASIP's Council regarding *JMD* policy issues; scope statement; business success; publisher Request for Proposal and selection; selection of Editors and Editorial Board members; performance expectations for Editors.
- The Publications Committee does not oversee *JMD*'s production or editorial functions; however, it may request or receive information and make recommendations to the Editor-in-Chief and Managing Editor.
- The Committee reviews AMP member submissions of Case Reports for potential publication in *CAP Today*.
- The Committee meets monthly by conference call, face-to-face before the annual meeting, and by electronic communication.

2021 ACTIVITIES:

- Solicited and reviewed AMP Case Reports submissions for potential publication in *CAP Today*.
- Solicited volunteer applications across all subdivisions for subject matter experts and a junior member.
- Discussed ways the Committee can contribute to the AMP member's professional needs and potential areas for improving *JMD* (e.g., collaborative paper, review articles).

AMP Training & Education Committee Annual Report, 2021

COMMITTEE MEMBERS:

Chair	Nathanael Bailey, MD
Vice-Chair	Yasmine Akkari, PhD
Genetics Subdivision Representative	Honey V. Reddi, PhD
Genetics Subdivision Representative	Ying Zou, MD, PhD
Hematopathology Subdivision Representative	Nathan Montgomery, MD, PhD
Hematopathology Subdivision Representative	Amir Behdad, MD, MBA
Infectious Diseases Subdivision Representative	Gerald Capraro, PhD
Infectious Diseases Subdivision Representative	Allen Bateman, PhD, MPH
Informatics Subdivision Representative	Weiwei Zhang, PhD
Informatics Subdivision Representative	Eduardo Castro-Echeverry, MD, MPH
Solid Tumors Subdivision Representative	Lauren Ritterhouse, MD, PhD
Solid Tumors Subdivision Representative	Marjorie Parker David, MD, MS
Junior Member	Annie Garcia, MD
Junior Member	Jeffrey Kleinberger, MD, PhD
Medical Technologist Member	Lisa Haley, MS
Medical Technologist Member	Timothy Daniels, MLS(ASCP) ^{CM} , MB ^{CM} , QLS ^{CM}
Membership Affairs Committee Liaison	Cynthia Jackson, PhD
International Affairs Committee Liaison	Roberta Sitnik, PhD

PURPOSE SUMMARY:

The Training and Education (T&E) Committee is comprised of representatives from each of AMP's subdivisions: genetics, hematopathology, infectious diseases, informatics, and solid tumors as well as technologist representatives, junior members, and liaisons from the International Affairs and Membership Affairs Committees (IAC and MAC). It oversees important issues such as education and certification in molecular pathology and mentoring of trainees, as well as developing educational programs for different audiences.

Educational Programs

2021 GetAMPed! Updates and Case Studies in Molecular Pathology:

The T&E Committee plans to organize a virtual outreach course on January 13, 2022. The program will be geared to individuals with limited experience in molecular diagnostics and included an overview of pre-analytic considerations in molecular pathology, followed by interactive case studies presented by T&E members that illustrated a wide range of molecular diagnostic applications.

Early Bird Sessions at the Annual Meeting & Expo - Case Studies presented by Trainees or Technologists:

The T&E Committee hosted an opportunity for fellows, residents, postdocs, graduate students, or technologists to present an interesting and/or challenging case study for the AMP 2021 Digital Experience-FULL. Trainee/technologist presenters in 2021 are listed below:

Case Studies in Genetics	Case Study: Sebaceous Adenoma of the Penis Suspicious for Muir-Torre Syndrome	Blaire Anderson	Dartmouth Hitchcock Medical Center
	Case Study: Molecular Diagnosis of a Patient with a Novel Suspected Hereditary Amyloidosis	Lauren Choate, PhD	Mayo Clinic
	Case Study: A case of familial cytopenias and cerebral cavernous malformations presenting with seizures and brain abscesses	Runjun Kumar, MD, PhD	Baylor College of Medicine

Case Studies in Hematopathology	Case Study: Clinical Whole Genome Sequencing Characterizes an Unusual Case of B-lymphoblastic Leukemia/Lymphoma	Brooj Abro, MD	Washington University in St. Louis
	Case Study: Clonally Related Marginal Zone Lymphoma and Classic Hodgkin Lymphoma: A Rare Case Highlighting the Importance of IGH Rearrangement Testing	Bradley Drumheller, MD	Emory University Hospital
	Case Study: Molecular and histopathologic findings in a case of large B-cell lymphoma with IRF4 rearrangement	Farah El-Sharkawy, MD	Hospital of the University of Pennsylvania
	Case Study: A Genetically Novel Mantle Cell Lymphoma	Ahmed Lazim, MD	Temple University Hospital
	Case Study: Incidental discovery of acute myeloid leukemia during liquid biopsy of a lung cancer patient	Dingani Nkosi, MBBS, PhD	University of Rochester Medical Center
	Case Study: Inadvertent allogeneic hematopoietic stem cell transplant from a lung allograft	Laura Schultz-Rogers, PhD	University of North Carolina Chapel Hill Hospital

Case Studies in Infectious Diseases	Case Study: Even if it looks like a ductal and walks like a ductal. . .	Jeremy Adler, MD	University of Chicago
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Case Studies in Solid Tumors	Case Study: A rare case of CIC-rearranged sarcoma diagnosed with integrated RNA and DNA sequencing	Annie Garcia, MD	Baylor college of Medicine
	Case Study: Clonal Evolution of Glioblastoma after Therapy	Tasos Gogakos, MD, PhD	Mass General / Brigham Womens
	Case Study: A case series of FGFR3-KLF15 Fusion in Non-Small Cell Lung Cancer	Parsa Hodjat, MD	Houston Methodist Hospital
	Case Study: Potentially Targetable FGFR2-INA Fusion in Intraductal Tubulopapillary Neoplasm of Pancreas (ITPN)	Irena Manukyan MD, PhD	Columbia University
	Case Study: Detection of a rare fusion event to confirm metastasis and primary	Drew Williamson, MD	Brigham and Women's Hospital
	Case Study: Identification of identical BAP1 mutations in a patient's peritoneal mesothelioma and mucosal melanoma: A precision medicine case study	Paul Zamiara, MD	Dalhousie University

2021 Webcasts and Recorded Online Content (ROCs):

Date	Title	Speaker/T&E Moderator	NOTES (Registrants/Attendees)
Major Initiative: Emerging and Evolving Biomarkers: Recent Findings, Laboratory Considerations, and Clinical Implications			
April 15	ERBB2 (HER2) in Colorectal Cancer: Recent findings, laboratory considerations, and clinical implications	Sinchita Roy-Chowdhuri, MD, PhD	384/186
June 29	Myeloid Malignancy MRD: Recent Findings, Laboratory Considerations, and Clinical Implications	David Wu, MD, PhD	521/243
October 12	KRAS: Recent Findings, Laboratory Considerations, and Clinical Implications	Craig Mackinnon, MD, PhD	481/213
Major Initiative: Utility of Cell-free DNA in the Clinic: Current State and Future Directions			
May 18	Basic Biology and Detection of Cell-Free DNA	Rena Xian, MD and Lynette M. Sholl MD	700/398
July 27	Practical Analytical and Clinical validation Strategies for Cell-Free Tumor DNA Assays	Christina Lockwood, PhD	577/258
September 28	Opportunities and Challenges Toward the Clinical Application of ctDNA MRD Testing in Solid Cancers	Everett Moding, MD PhD	574/289
Webinar Series: Horizons II - Hot Topics			
January 28	Molecular Testing in Thyroid Cancer: Technical Approaches and Clinical Breakthroughs	Dora Dias-Santagata. / Moderated by Honey Reddi	309/168
February 11	AMP Advocacy in the Biden Administration and the 117th Congress: What to expect in 2021	Eric Konnick and Jordan Laser. / Moderated by Yasmine Akkari	208/117
March 4	Enhancing COVID-19 Pandemic Response with SARS-CoV-2 Whole Genome Sequencing	Allen Bateman and Duncan MacCannell. / Moderated by Jerry Capraro	296/164
March 9	Myeloid Neoplasms with Germline Predisposition	Lucy Godley. / Moderated by Nate Montgomery	376/209
June 15	Recommendations for Clinical CYP2D6 Genotyping Allele Selection	Ann Moyer	325/179
July 20	Whole Genome Sequencing for Clinical Cancer Diagnostics	Eric Duncavage / Moderated by Nathanael Bailey	381/199
November 4	Electronic Health Records and Genomic Data – Challenges and Opportunities	Alexis B. Carter, MD	TBD

2021 Education Initiatives

- **Continuing Education credits (CME and CMLE):**

AMP offers Continuing Education credits for most educational activities. Accredited activities include the MGP Review Course (live and online), the GetAMPed! Outreach course and enduring program, live and enduring webinars, the 2021 AMP Digital Experience and Recorded Online Content (ROC) lectures. Currently, there are nearly 200 hours of CME and CMLE credit available on the learning management system. In addition, the vast majority of live programming is available for continuing education credit.

- **Online education - AMPED™:**

The T&E Committee and staff spent a significant amount of time designing and developing additional educational materials for populating educate.amp.org. It boasts over 350 hours of content and have attracted 3,700 active users in 2021 (January 2021-October 29, 2021). The site also hosted the AMP 2021 Digital Experience (November 16-19).

- **NEW Webinar Series for 2021:** One-hour webinars are live broadcasted and then placed on AMPED™ as on-demand. All of the webinars are complimentary for AMP members and some are complimentary for nonmembers as well. T&E programmed and/or oversaw 10 of the 13 CE eligible webinars broadcasted this year. See page 3 for new webinars placed on AMPED™.
- **Course Bundles/AMP Certificate Programs:** Courses are live programs that were recorded and translated to a self-paced online course. Certificate programs are self-paced on-demand content designed to provide a deep dive on specific areas of interest. New courses and certificate programs launched in 2021 include:
 - [NGS101 v2.0: A Re-Introduction to the Fundamentals of Next-Generation Sequencing Certificate Program](#)
 - [2021 MGP Review Course](#)
 - [2020 GetAMPed! course recordings](#)
 - [JMD 2021 CME Program](#)
- **AMP Flashcards:** The T&E Committee initiated the creation of a new self-study review tool – the AMP flashcards. There are two currently available: a 40+ card set on [multiple myeloma](#) and a 20+ card set on [colorectal cancer](#). These were launched in August of 2020. One more will be coming soon on AML.
- **FISE Question Bank:** This is the fourth year of a continuing collaboration with the MGP-PD Council to provide fellows with a Fellowship In-service Examination (FISE) at the beginning and at the end of their fellowship year. Additional FISE exam questions were written by MGP faculty and reviewed by the T&E. All existing questions are also reviewed annually. The bank currently consists of >350 questions and learners are presented with 45 randomly selected questions for their examination. AMP staff provides non-attributed results to participating institutions at the beginning of the fellowship year (in October) and at the end of the year (in May/June).
- **Molecular in a Minute:** New this year, the T&E Committee initiated the microlearning modules called Molecular in a Minute. This features 5-15 minute videos on a variety of molecular pathology competency topics.

- **Molecular-in-My-Pocket™ cards:** The T&E Committee continued expanding the Molecular-in-My-Pocket™ reference card collection. Two new oncology cards on Bone and Soft Tissue Tumors were made available in 2021. There are now 23 cards, total. Cards are reviewed annually by T&E Committee members for accuracy and for any required updates. There have been more than 2,000 downloads of these cards from the AMP website in the past year.
- **Member Spotlights:** The T&E committee continues this collaboration with the Membership Affairs Committee by identifying and interviewing AMP members for the Member Spotlights page on the AMP website. Interviews and profiles highlight the training and career paths of various molecular professionals.

AMP 2021 Virtual Annual Meeting & Expo Activities: While the AMP 2021 Annual Meeting & Expo Conference has been cancelled, two of the planned events will be rescheduled on a virtual platform.

- **The Molecular Genetic Pathology Fellowship Program Directors (MGP PD) Council**
The MGP Program Directors (MGP PD) Council consists of Rizwan Naeem (Chair) Rena Xian (Chair-Elect), and Keyur Patel (Past-Chair). Nathan Montgomery acts as the T&E committee representative to this group. The MGP PD Council facilitates the discussions of the MGP Program Directors Working Group and responds to the ABP and ACGME on matters related to MGP Fellowship programs. The Council worked with the T&E Committee to launch the in-service practice exam question bank for MGP Fellows (FISE; see above). They will be meeting virtually in December 2021.
- **The Education Community of Practice (EdCoP) Group**
The T&E committee launched the AMP Education Community of Practice Group lead by Yasmine Akkari, PhD with working group members Alanna Church, MD; Marjorie David MD; Cynthia Jackson, PhD; and Sabah Kadri, PhD. The EdCoPs listserv was activated on CHAMP and currently have 69 members (as of October 29, 2021). They held a virtual general meeting in June 2020 with ~35 attendees. The group will hold another virtual meeting in February, 2022.

Curriculum and Educational Manuscript Development Task Forces

- **Genomics Education for Primary Care Residents:** This Task Force is led by Laura Tafe. Their task is to develop a modified basic genomics curriculum for primary care residents, *i.e.*, internal medicine, family practice, and pediatrics. Other working group members are Yasmine Akkari, Maria Arcila, Devon Chabot-Richards, Preeti Pancholi and Anthony Snow. This manuscript is under review.
- **MGP Fellow Training and Curriculum in Genomics Task Force:** This [manuscript](#) was prepared by co-leaders Jason Rosenbaum and Mark Ewalt and includes working group members Kristy Crooks, Jeff Gagan and David Wu. The manuscript is now published. Additional authors are: Anna Berry, Alanna Church, Linda Jeng, Roger Klein, Mahesh Mansukhani, Federico Monzon, John Pfeifer, Hanna Rennert, Iris Schrijver, Laura Tafe, Vivianna Van Deerlin and David Wu.
- **Molecular Genetic Pathology (MGP) Curriculum Update (MGP-CUP):** This task force is led by Karen Kaul and includes working group members Rashmi Goswami, Allison Cushman-Vokoun, Mark Ewalt, Harriet Feilotter, Julie Gastier-Foster, Jennifer Laudadio, Randy Olsen, Lauren Ritterhouse, Jason

Rosenbaum and Priya Velu. The goal of this project is to prepare a set of recommendations and guidelines by which MGP training programs can develop curricula for MGP fellowship trainees.

- **Lab Management Manuscript:** This practice advance manuscript (accepted), titled “Leading in a Clinical Molecular Laboratory: It’s Not Just About the Science” was led by Erin H. Graf. The practice advance outlines the 2020 Laboratory Management AMP Certificate Program.
- **Emerging and Evolving Biomarker Manuscripts:** These practice advances, led by Kurtis Davies, Lauren Ritterhouse, and Anthony Snow, will feature the science, laboratory considerations, and clinical implications of the individual biomarkers presented in the Emerging and Evolving Biomarker webinar series. Upcoming featured biomarkers will be *NTRK* (written by Lynette Sholl, under review), *Metex14* (written by Nikoletta Sidiropoulos, under review), and *ERBB2(Her2)* (written by Sinchita Roy-Chowdhuri).

Co-Sponsorships, Companion Meetings, and/or Collaborations

- **(Virtual) United States and Canadian Academy of Pathology (USCAP) 2021**
The AMP 2021 Companion Society Symposium,
“Utilization of Cell free DNA (cfDNA) in Oncology”, was a virtual event co-moderated by Amir Behdad, MD, MBA and Alanna Church, MD. Speakers were:
 - Lynette M. Sholl, MD
 - Pedram Razavi MD, PhD
 - Tejus Bale, MD, PhD
- **(Virtual) American Society for Clinical Pathology (ASCP)**
ASCP 2021 AMP Workshop
“NGS Tips and Tricks for Technologists” was presented by Lisa Haley, MS and Timothy Daniels
- **(Virtual) College of American Pathologists (CAP)**
CAP 2021 Course Presentation (postponed from CAP 2020)
“Understanding NGS and Interpreting Reports for Oncologic Pathology” was presented by Sabah Kadri, PhD and Cecilia Yeung, MD
- **Cambridge Health Institute (CHI) Conferences**
 - **Next Generation Dx Summit**, August 2021 (Virtual)
 - **Plenary Panel Discussion: Lessons Learned about COVID-19 Testing and Recommendations for Future Emerging Outbreaks: Advocacy, Education and Clinical Practice.** Antonia Sepulveda, PhD; Erin H. Graf, PhD; Jordan S. Laser, MD; Donna M. Wolk, PhD

AMP Subdivision Leadership Annual Report, 2021

SUBDIVISION LEADERSHIP

	Genetics	Hematopathology	Infectious Diseases	Informatics	Solid Tumors
Chair	Avni Santani	Maria Arcila	Donna Wolk	Jason Merker	Larry Jennings
Clinical Practice Committee	Fatimah Nahhas-Alwan	Rashmi Goswami	Joseph Yao	Joshua Coleman	Susan Hsiao
	Steven Sperber	Michael Kluk	Blake Buchan	Elaine Gee	David Eberhard
Economic Affairs Committee	Victoria Pratt	Maria Arcila	Jennifer Dien Bard	Jeffrey Gagan	Susan Hsiao
Nominating Committee	Alka Chaubey	Rena Xian	Amy Leber	Matthew Lebo	Jennifer Laudadio
	Jennelle Hodge	Marian Harris	Ted Schutzbank	Julie Woolworth Hirschhorn	Allison Cushman-Vokoun
Professional Relations Committee	Andria Del Tredici	Betty Chung	Frederick Nolte	Jordan Laser	Amy Lo
Program Committee	Ryan Schmidt	Noah Brown	Erin McElvania	Ahmet Zehir	Jonathan Nowak
	Pinar Bayrak-Toydemir	Valentina Nardi	Erin Graf	Annette Leon	Sinchita Roy Chowdhuri
Training & Education Committee	Honey Reddi	Nathan Montgomery	Gerald Capraro	Weiwei Zhang	Lauren Ritterhouse
	Ying Zou	Amir Behdad	Allen Bateman	Eduardo Castro-Echeverry	Marjorie Parker David

PURPOSE SUMMARY:

The Subdivision Leadership consists of a Chair, representatives to the Clinical Practice, Economic Affairs, Nominating, Program, Professional Relations, Training & Education Committees, and Ad hoc representatives to the Subdivision Leadership groups from the Professional Relations and Economic Affairs Committees. Subdivision Chairs are responsible for the successful operation and development of the subdivision that they lead.

Each Subdivision Leadership group meets quarterly and functions in an AMP advisory panel of discipline-specific subject matter experts convened to address issues of importance to their Subdivision. They carry out their subdivision leadership responsibilities by:

- Identifying and ascertaining the needs of the Subdivision membership and of the discipline itself
- Providing feedback regarding projects to the Clinical Practice Committee, Training and Education Committee, or other relevant committees
- Providing input and suggestions regarding content for the Annual Meeting and other educational events
- Assisting to identify and recommend future AMP volunteers and leaders
- Resource for advocacy-related initiatives

2021 ACTIVITIES:

All Subdivision Leadership groups contribute to biannual Subdivision Spotlight email digests that highlights AMP activities and *JMD* articles related to Subdivision member's interests.

Genetics - Addressed current issues and topics related to genetics, including variant interpretation and classification, next-generation sequencing, pharmacogenomics, whole genome and exome sequencing standards, forensics, polygenic risk scores, and diversity in genomic databases. Subdivision Leadership members provided feedback to Scott Topper, AMP representative to the ACMG-led Interpretation of Sequence Variants Update Workgroup. Subdivision Leadership members also assisted the Professional Relations Committee (PRC) taskforce by providing input on their response to variant database sharing barriers; and the Economic Affairs Committee (EAC) by providing input on a collaborative response from AMP and CAP on the Local Coverage Determinations (dLCD) with genetic testing for cardiovascular testing.

Hematopathology - Addressed current issues and topics in molecular hematopathology, including advances in translational research related to myelomas, MRD monitoring in hematologic malignancies, next-generation sequencing, and immunology. Participated and contributed to projects related to the different AMP Committees. Subdivision Leadership members also assisted the Economic Affairs Committee (EAC) by reviewing updates and providing input on a collaborative response from AMP and CAP to MoLDX for NGS Testing in Myeloid and Suspected Myeloid Malignancy Coverage Policy. Curated and provided a "Must Reads" list of hematopathology-relevant literature to the Subdivision membership.

Infectious Diseases - Addressed current issues and topics related to the clinical molecular diagnostics laboratory, including related to SARS-CoV-2. Subdivision Leadership members also assisted the Economic Affairs Committee (EAC) by providing input on a collaborative response from AMP and CAP on the Local Coverage Determinations (dLCD) with respiratory pathogen panel testing. Subdivision Leadership members also assisted the Professional Relations Committee (PRC) taskforce by providing input on their response to variant database sharing, HHS RFI Lyme Disease Diagnostics, and patient-facing information on COVID-19 testing; and provided input to the New Codes and Pricing of the AMP Economic Affairs Committee on blood culture identification.

Informatics - Addressed current issues and topics related to development of bioinformatics pipelines for clinical next-generation sequencing, informatics tools in metagenomics, electronic health record (EHR) interoperability for clinical genomics data, and body of knowledge (BoK) for Clinical Genomics Bioinformaticist. Subdivision Leadership members also assisted the Professional Relations Committee (PRC) taskforce by providing input on their response to variant database sharing barriers; and the Professional Relations Committee (PRC) by providing a response to the FDA/NIH RFI on tools for NGS test validation and development.

Solid Tumors - Addressed various current issues and topics related to clinical applications of circulating tumor cells, HR deficiency (HRD), liquid biopsies, tumor mutational burden, and other factors related to clinical practice of cancer. Subdivision Leadership members also assisted the Professional Relations Committee (PRC) taskforce by providing input on their response to variant database sharing barriers; and the AMP Economic Affairs Committee (EAC) by providing input on their response to Anthem's coverage policy on Whole Genome Sequencing, Whole Exome Sequencing, Gene Panels, and Molecular Profiling.

Requests from the Subdivision Leadership

- We encourage all AMP members to alert their Subdivision Chair or Representatives for current or emerging specific needs that AMP should consider and address.
- We encourage AMP members to actively contribute to requests for information from their respective Subdivision Leadership.