

Microscopy Society of America Focused Interest Groups: A Historical (and Personal) Perspective

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“A Focused Interest Group (FIG) is a group of not less than ten MSA members who have organized, with the approval of MSA Council, to promote a specific discipline relevant to microscopy or microanalysis.” – mission statement from the FIG guidelines.

Microscopy Society of America (MSA) Special Interest Groups (SIG), predecessors of FIGs, were envisioned as a way to provide a meeting “home” for scientists whose microscopy and microanalysis disciplines were neither affiliated with a professional organization nor met on a regular basis. At the 1999 MSA Winter Council meeting, a motion was made and seconded to establish the concept of SIGs. Per the meeting minutes, a committee was appointed to “bring specific recommendations relative to SIG criteria to Summer Council 1999 for approval.” Appointed committee members were Ralph Albrecht, Gracie Burke, Barry Carter, Ernie Hall, Jay Jerome, and Janet Woodward. By the time the 2000 Winter Council meeting was held, *Special Interest Groups* became *Focused Interest Groups*. The Vascular Corrosion Casting (VCC; also known as MicroCorrosion Casting) group was approved as the first official MSA FIG (Table 1).

In the minutes of the 2001 Summer Council meeting, it was noted that the VCC FIG, led by Fred Hossler, and the Biomaterials FIG, led by Steven Eppell, “have had a positive effect by adding contributed papers” to the scientific program. Proposals for additional FIGs were on the horizon. Several months later, at the 2002 Winter Council meeting, it was recorded that three new FIGs were approved by MSA Council: Focused Ion Beam (FIB), led by Lucille Giannuzzi; Atom Probe Field Ion Microscope (APFIM), led by David Larson; and Pharmaceuticals (Pharma), led by me. It was suggested that the Microscopy & Microanalysis (M&M) Program Chair should consult with FIG Leaders to decide which groups could organize a symposium or other program-related activity in any given year. As recorded in the meeting minutes, the FIG guidelines then in development should be modified to state that “a FIG function depends on the activity of the group, but at a minimum should organize a symposium at an annual meeting.” However, “a FIG symposium at an annual meeting is not guaranteed. The decision is to be made by the Program Chair.”

One year later, at the 2002 Summer Council meeting in Quebec, FIG committee chair Ralph Albrecht commented on how the FIGs’ well-attended sessions served to attract attendees to the annual meetings and urged MSA Council to recognize their importance and relevance to the Society. Using the Technologists’ Forum as an example of success, he and Barry Carter pointed out that these specialized groups could be used as a way to increase membership in the Society. Also at this meeting, the application of a new FIG, Materials Research in

an Aberration-Free Environment (A-F) was approved; this new FIG would be eligible to propose a symposium for M&M 2003. The PharmaFIG also held its first membership meeting in Quebec and made plans for a symposium at M&M 2003 in San Antonio.

In 2003, there was some Council discussion regarding the structure and leadership of the FIGs; it was noted that one or two groups had not changed leadership since they were formed. It was the original intent of the *ad hoc* committee that FIG leadership should change every 2 years. This action was communicated to the FIGs. However, at this point, there were still no formal guidelines in place.

At M&M 2004 in Savannah, GA, I was approached by Ralph Albrecht, FIG committee chair, and Barry Carter with an interesting proposal: would I consider becoming Chair of this collection of focused interest groups? Given that I had organized the Pharmaceuticals FIG following a successful Pharma symposium at M&M 2000 and had held other leadership roles with MSA committees, they felt that I had the expertise to organize the growing number of informally arranged groups into formal, MSA-sanctioned FIGs. I accepted the challenge, and my 3-year appointment as FIG Chair became official in 2005 (Table 2).

At the same time, Council agreed that the FIG concept would be a dynamic 5-year experiment. Formal guidelines and operating procedures, including dues collection, would need to be developed and implemented. It was felt that by assessing dues, in addition to annual MSA dues, members would demonstrate a commitment to supporting their chosen disciplines, and at the same time would build a treasury that each individual FIG could use to support non-program-related activities. In addition, the application to create a new Facilities Operation and Management (FOM) FIG was approved by Council.

By 2005, the total number of sanctioned FIGs was seven: A-F, APFIM, Biomaterials, FIB, FOM, Pharma, and VCC; each was chaired by a FIG Leader. The overall coordinator of the FIGs was designated the FIG Chair; there was a (very brief) discussion that the holder of that position should be called the FIG Newton! The FIG Chair convened the first meeting of the FIG Leaders at M&M 2005 in Honolulu. In addition to representatives from the 7 recognized FIGs, attendees included: MSA President Gracie Burke, who brought greetings and congratulations from MSA Council; MSA President-Elect Jay Jerome; MSA Council FIG Liaison Jeanette Killius; M&M 2005 Program Chair Bob Price; M&M 2006 Program Chair Paul Kotula; and M&M 2007 Program Chair Mike Marko. It was at this meeting that the first draft of the FIG Guidelines was presented, and codified operating procedures were discussed. Specific recommendations were brought to the table by Bob Price regarding

Table 1: Chronological list of FIG formation with initial requestor/chair and current chair.

Focused Interest Group	Acronym	Year Established	Initial Chair	Current Chair
Vascular Corrosion Casting	VCC	2000	Fred Hossler	Dissolved 2012
Biomaterials		2000	Steve Eppell	Dissolved 2012
Focused Ion Beam	FIB	2002	Lucille Giannuzzi	Josh Sugar
Atom Probe Field Ion Microscopy	APFIM	2002	Dave Larson	David Diercks
Pharmaceuticals	Pharma	2002	Bev Maleeff	Daniel Skomski
Materials Research in an Aberration-Free Environment*	A-F	2002	Christian Kisielowski	Robert Klie
Facilities Operation and Management	FOM	2004	Debra Sherman	Amelia Dempere
Cryomicroscopy**	Cryo	2006	Caroline Miller	Kim Rensing
Diagnostic Microscopy***	DM	2010	Caroline Miller	Claudia Lopez
Environmental TEM****	ETEM	2011	Eric Stach	Katherine Jungjohann
Electron Crystallography and Automated Mapping Techniques	ECAMT	2012	Sergei Rouvimov	Roberto dos Reis
3D Electron Microscopy in the Biological Sciences	3DEMBS	2014	Teresa Ruiz/Michael Radermacher	Bill Rice
MicroAnalytical Standards	MAS	2015	Julien Allaz	Will Nachlas
EM Data Analysis and Management	EM-DAM	2020	Alex Rakowski	Alex Rakowski

* Later changed to Aberration Corrected EM (ACEM)

** Later changed to Cryopreparation (CP)

*** Later changed to Diagnostic & Biomedical Microscopy (DBM)

**** Later changed to EM in Liquids and Gases (EMLG)

policy for the role of FIGs in the annual meeting program and inclusion of these recommendations into the FIG guidelines. There was a lively interchange of ideas amongst the attendees at that meeting!

At the 2006 Winter Council meeting in Memphis, a large part of the agenda included presentations and discussion of strategic initiatives, led by MSA President Jay Jerome. As FIG Chair, I was tasked with developing plans regarding creation of a Student FIG as a mechanism to recruit and retain student members in MSA. After establishment of an *ad hoc* committee to plan and discuss the proposal, it was determined that a FIG might not be the best way to address retention of student members, but that student membership recruitment activities should be moved from the FIG Chair to the Membership and/or Education Committees. Some years later, this initiative resurfaced and became what is now the MSA Student Council.

Also at the 2006 Winter Council meeting, a proposal to create the Cryomicroscopy FIG was presented and approved.

Table 2: FIG Chairs

1999–2004	Ralph Albrecht
2005–2007	Bev Maleeff
2008–2010	Barbara Hartman
2011–2013	Lynn DiMemmo
2014–2016	James DiOrio
2016; 2017–2019	Andrew Vogt
2020–2021	Renu Sharma
2022–2024	Katherine Jungjohann

The group conducted an organizational meeting at M&M 2006, and the name was later changed to Cryopreparation FIG (Cryo).

Of the eight FIGs active in 2006, the FOM FIG had the greatest number of members (89) and was the fastest growing group. At M&M 2006, FIG contributions to the program included: a premeeting congress organized by A-F; symposia organized by APFIM, FIB, and Pharma; and a pre-meeting workshop on entrepreneurship organized by FOM.

In mid-2007, there were a total of 256 MSA members who were also members of at least one FIG. The “FIG experiment” was evaluated via a membership survey and results presented to Council. FIG membership ranked 4th in a list of 10 MSA member benefits, with enough votes to support continuation of the experiment. A notable success was a process developed for a FIG to work with the M&M Program Chair to request a symposium, tutorial, or other event on the Scientific Program in any given year. FIGs collected dues, in addition to annual MSA dues, that could be used to fund activities unrelated to the Program, such as a meal or social event for their respective members. In addition, the “FIG experiment” would continue until the end of the 5-year period, at which time it would be determined if the “FIGs have been a significant factor in membership recruitment or retention, based on the results of a membership survey.”

A proposal to recognize FIG members at M&M meetings was discussed at the 2007 Winter Council meeting, and a suggestion was made to provide a ribbon for meeting badges. Although the use of ribbons was rejected at that time, the use of gold “FIG Member” stickers on badges was approved and these were first made available for FIG members’ badge holders at M&M 2007. In 2014, with Council approval, “FIG Member”



Figure 1: FIG ribbon from an M&M 2019 meeting badge.

ribbons were created and provided to M&M meeting attendees who are FIG members in good standing (Figure 1).

The original FIG “how-to” document that defines the duties and activities of the FIG Chair was published in December 2007. Along with budgetary and administrative responsibilities, and representation on the M&M Program Committee, there was an item in the “how-to” document defining FIG co-sponsorship, with the Membership Committee, of the MSA Student Mixer at M&M.

The FIGs and the Membership Committee co-sponsored the first MSA Student Mixer at M&M07 in Fort Lauderdale. Approximately 60 students attended the event, where refreshments were served. Each student was given a complimentary USB flash drive with the MSA logo, preloaded with an MSA membership application. A PowerPoint presentation about MSA membership and its benefits was projected continuously throughout the mixer. MSA President Michael O’Keefe, President-Elect Bill Gunning, and Past-President Jay Jerome spoke to the audience about MSA and its member benefits, along with members of Council, the Membership Committee, and FIG Chairs. Students had the opportunity to socialize with their peers and with MSA officers. Feedback from this event was excellent, and several students expressed an interest in becoming involved in the Society as a result of the mixer.

My term as FIG Chair ended in December 2007. After the first 3 years of the 5-year “experiment,” the FIGs were well-accepted and integrated seamlessly into MSA. It was time for me to nominate my successor, and I recommended to Council that Barbara Hartman would be the ideal person to lead the FIGs. Barb had completed a term as Leader of the Pharma FIG and had experience in other leadership roles; her nomination was approved by Council, and she took office in January 2008 for a 3-year term.

The next group to apply for FIG status was Diagnostic Microscopy, led by Caroline Miller, in 2010. Their application listed the minimum number of MSA members needed to form a FIG, a leader was identified, and their mission statement was stated. MSA Council approved the application at Winter Council 2010. Diagnostic Microscopy later became Diagnostic & Biomedical Microscopy (DBM).

At Summer Council 2010 in Portland, there was a discussion surrounding what constitutes an active FIG. According to the Guidelines, each FIG must have at least 10 active, dues-paying members and hold regular elections in order to remain viable. A motion was duly carried, stating the following: “In the event that a FIG does not elect a leader over a period of two consecutive years, that FIG will receive a warning that a leader must be identified in year 3. Otherwise, that FIG will be dissolved, and funds would revert to the general fund of the Society.” This is still true today.

Winter Council 2011 saw quite a bit of FIG activity. First, Lynn DiMemmo was recommended by Barb Hartman to become her successor as FIG Chair, with a 3-year term from 2011–2013. Lynn was previously Leader of the Pharma FIG. Council approved the recommendation. At this meeting, the A-F FIG requested a name change from Aberration-Free to Aberration-Corrected FIG; this was also approved. Finally, there was an application for a new group, to be called the Environmental TEM FIG; this, too, was approved by Council. This FIG later became the EM in Liquids and Gases (EMLG) FIG. In addition, due to inactivity and a lack of sufficient members, steps were initiated to dissolve the VCC and Biomaterials FIGs. Dissolution of FIGs over time was planned by the original *ad hoc* committee and demonstrates the dynamic nature of microscopy as techniques and trends change.

Application for a new FIG, Electron Crystallography and Automated Mapping Techniques (ECAMT), was presented at Winter Council 2012 and accepted by Council. However, dissolution of the Biomaterials FIG was made official. The VCC FIG was dissolved in December 2012, leaving 9 active FIGs at the end of 2012.

At Winter Council 2014, James DiOrio was approved as the next FIG Chair, with a 3-year term from 2014–2016. At Summer Council that year, Jim presented an application from Teresa Ruiz to form a new FIG called 3D Electron Microscopy in the Biological Sciences (3DEMBS) with 25 founding members. After discussion, the application was approved. There was also a procedural discussion regarding selection of FIGs to host pre-meeting congresses; this was deferred to the M&M Program Chairs, rather than adding this to the FIG Guidelines.

An application for a Microanalysis Society (MAS)-related FIG was brought to Summer Council in 2015. MAS requested the formation of the MicroAnalytical Standards (MAS) FIG, where most members would be MAS, rather than MSA, members. After a lively discussion, the adoption of the MAS FIG was approved as a 5-year pilot program, to include membership from MSA, MAS, IMS, and MSC/SMC, with action items including how to enroll members and collect dues from our affiliated Societies. I am happy to say that the pilot was successful, and the MAS FIG is still a very active group!

At Summer Council 2016, Jim DiOrio informed Council that he had retired, and FIG Chair-Elect Andrew Vogt was approved to finish Jim’s term of office and assume his own 3-year term from 2017–2019. A proposal was brought forward to offer free FIG membership to students, to encourage meeting attendance and MSA membership. Following a discussion, a motion was made and accepted to offer students one free FIG membership per year; additional student FIG memberships would require payment of annual dues. In addition, it was agreed that the FIGs would have representation at the MSA MegaBooth in the M&M Exhibit Hall.

In 2019, FIG topics discussed with MSA Council included: raising the annual FIG dues to \$15/person/FIG (this was approved and added as an amendment to the FIG Guidelines); multiple requests for symposium and pre-meeting congresses; and the approval of Renu Sharma as FIG Chair starting in 2020.

A twelfth FIG was proposed in Fall 2020: EM Data Analysis and Management (EM-DAM). This FIG would operate across disciplines, that is, not attached exclusively to either physical

Table 3: Chronological list of key dates in the MSA “FIG Experiment.”

Key Dates	
1999	Special Interest Groups (SIG) concept approved
2000	SIG became Focused Interest Groups (FIG)
2000	Vascular Corrosion Casting (VCC), Biomaterials FIGs established
2002	Focused Ion Beam (FIB), Atom Probe Field Ion Microscope (A-P), Pharmaceuticals (Pharma) FIGs established
2002	Materials Research in an Aberration-Free Environment (A-F) FIG established
2004	Facilities Operation and Management (FOM) FIG established
2005	First version of FIG Guidelines approved
2005	FIG dues implemented at \$10/person/FIG/year
2005	First meeting of FIG Leaders as a group
2006	Cryomicroscopy (Cryo) FIG established
2006	First pre-meeting Congress organized by a FIG (A-F)
2006	First pre-meeting Workshop organized by a FIG (FOM)
2007	“FIG Member” badge stickers introduced at M&M 2007
2007	FIGs co-sponsored first MSA Student Mixer at M&M 2007
2010	Diagnostic Microscopy (DM) FIG established
2011	Environmental TEM (ETEM) FIG established
2012	Electron Crystallography and Automated Mapping Techniques (ECAMT) FIG established
2012	VCC and Biomaterials FIGs dissolved
2014	3D Electron Microscopy in the Biological Sciences (3DEMBS) FIG established
2014	“FIG Member” badge ribbons introduced at M&M 2014
2015	MicroAnalytical Standards (MAS) FIG established; first joint MSA/MAS/IMS/MSF FIG
2016	Student MSA members offered one free FIG membership per year
2019	FIG dues increased to \$15/person/FIG/year
2020	EM Data Analysis and Management (EM-DAM) FIG established

science or biological science programming. After discussion, MSA Council approved formation of this new FIG.

That brings us to the present. There are 12 FIGs, listed on the FIG Community on the MSA website (<https://www.microscopy.org/communities/fig.cfm>), where members can find the names and contact information for the current FIG Chair, the active FIGs and their respective leaders, and links to additional information including mission statements for individual FIGs. This represents an exceptional number of discipline-specific, active communities within MSA as compared to where we started in 1999.

The FIG Guidelines (<https://www.microscopy.org/communities/FIGGuidelines.pdf>), which were first approved by MSA Council in July 2005, were subsequently amended in August 2005, January 2006, August 2007, and August 2018. The guidelines are useful for current FIG members and for groups considering applying for formation of a new FIG.

I haven't even touched upon the breadth of scientific programming contributed by the FIGs since the late 1990s. Over the years there have been numerous symposia, pre-meeting congresses, and organizational and membership meetings that have served to share information within the FIGs and with the rest of the microscopy community (Table 3). I'm proud to say that the “experiment” has proven itself very well indeed!

Future articles in *Microscopy Today* will detail the ongoing and upcoming activities of the various FIGs. Should anyone be interested in joining and contributing to an existing FIG community, please contact the leader of the group for more information. Anyone considering formation of a new FIG should contact the current FIG Chair.

Acknowledgements

Thanks to the early supporters of the SIG/FIG initiative for their initial efforts and for passing the torch to me and my successors. Following my term as FIG Chair (2004–2007), these MSA leaders assumed the role: Barbara Hartman (2008–2010); Lynn DiMemmo (2011–2013); James DiOrio (2014–2016); Andrew Vogt (2016–2019); Renu Sharma (2020–2021); and Katherine Jungjohann (2022–2024). MSA is fortunate that these members took on this important leadership role within the Society. Most importantly, many thanks to the members of MSA Council over these past 20+ years for their encouragement and support to establish and maintain the FIGs as a successful contribution to the mission of MSA.

Source material for this article was found in the MSA Council meeting minutes archives (<https://www.microscopy.org/about/minutes.cfm>), personal correspondence, and personal documentation.