

1    **In the Space Between: Public Information Officers in Science**

2    Bethann Garramon Merkle, Marty Downs, and Annaliese Hettinger

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4            As a naive young researcher at the Marine Biological Laboratory, I (MD) watched with  
5            surprise and distress as scientists tried to share facts and uncertainties about the court-mandated  
6            move of Boston's sewage outfall pipe into Cape Cod Bay. They faced a group of angry,  
7            distrustful protesters who were concerned that the move would destroy an ecosystem they  
8            depended on for enjoyment, recreation, renewal — and their livelihoods.

9            These scientists loved Cape Cod Bay just as much as the protesters, but their information  
10          fell on ears deafened by fear. I resolved then to learn the communications skills needed to bridge  
11          those kinds of divides. The moments that led up to such a career transition were different for all  
12          of us. Whether we carved a wandering path or a direct one to science communication, all three of  
13          us share a desire to connect with people and place science in a societal context. We have found  
14          the role of PIO a fulfilling way to do so.

15           The Public Information Officer (PIO) is a communicator whose role is to promote and  
16          explain the work of an institution, government agency, or non-governmental organization  
17          (NGO). To some, the word “promotion” smacks of hype and spin. It’s certainly true that PIOs  
18          choose the most interesting and important stories to share. But we are also keenly aware that our  
19          efficacy is contingent upon the trust of the communities we represent, the media, and citizens.

20           Science PIOs fill a space between scientists and journalists — and increasingly, between  
21          scientists and public audiences more directly. Rather than focusing deeply on one area of  
22          science, we are constantly scanning the horizon, searching for stories that will catch the attention  
23          of our audiences and showcase the accomplishments of our employers or clients. As a result,

24 scientists collaborating with PIOs gain considerably from the PIO's skillset, experience, and  
25 contacts. By working with a good PIO, a researcher can position their work to have real societal  
26 impact, far beyond what they could achieve alone.

27 Once upon a time, the "classic" PIO would work for a university or other large  
28 institution. They primarily wrote press releases and pitched them to reporters (Fig. 1). Their most  
29 important skills were: 1) getting the science right (to maintain the trust of the scientists whose  
30 work they represented), 2) maintaining relationships with reporters (so journalists would take  
31 their calls), and 3) telling a good story (so their press releases would stand out from the pack).

32 PIO roles have since broadened considerably. With dedicated newspaper science sections  
33 nearly extinct (Morrison, S 2013) — and even the number of general newsroom employees  
34 declining by 47% over the past 14 years (Pew Research Center on Journalism and the Media,  
35 2019) — science reporters are no longer the main channel for reaching public audiences. Social  
36 media and content marketing have transformed the landscape. Now, a PIO may also be a social  
37 media strategist, videographer, digital producer, or in-house editor whose work reaches  
38 audiences directly. A PIO may work in a role akin to writer/editor, producer, or coach. The  
39 degree of editorial freedom a PIO enjoys varies widely, depending on where and how they work.

40 The diversity of institutions and organizations employing PIOs has also grown. Units  
41 within universities may have their own PIOs. Independent research organizations may have a  
42 communications team to manage a website, write and produce stories and videos, even publish a  
43 magazine. Professional societies employ PIOs who promote the science their members do, the  
44 meetings they organize, and the causes they embrace. In government agencies and businesses the  
45 job is similar to that of a university PIO but may entail greater emphasis on explaining the  
46 science behind decisions and safeguarding the credibility of the organization. At the Boston

47 Public Health Commission, for instance, MD was called on to explain to wary city residents the  
48 importance of a measles quarantine and the rationale for collecting demographic data in  
49 hospitals. NGOs have as many roles for PIOs as they have purposes. A PIO might write op-eds  
50 or fact sheets to advocate for protected areas, explain what is (and is not) risky about GMOs, or  
51 detail how to best manage private lands for biodiversity.

52 In small organizations, a single PIO will typically do everything that is vaguely  
53 communications-related, including: learning about new discoveries from scientists and coaching  
54 them for media appearances; writing and editing web content and press releases; capturing and  
55 editing photographs and video; handling social media feeds; teaching science communications;  
56 or even developing advertising content and buying ads. Sometimes, PIOs handle crisis  
57 communications, event management, policy engagement, or outreach (e.g., BGM creates  
58 illustrations, educational materials, and animations and is developing a children's book for a  
59 research group). For an adventurous generalist, these positions can be a great opportunity to try  
60 one's hand at different kinds of work.

61 In larger organizations, PIOs do any of the above, but as part of a communications team,  
62 they will usually specialize — either by communications channel (social media, print, broadcast,  
63 or publications) or by audience (direct public engagement, media relations, scientific community  
64 or policy engagement). Freelancers may be hired by any of these organizations to write press  
65 releases, develop web content, and perform other communications tasks. As in ecology,  
66 fundraising, developing and managing budgets, and recruiting and supervising a team may all be  
67 part of a PIO's work.

68 Many skills developed as an ecologist can be good preparation for a PIO position, but  
69 they are only the beginning. An online supplement to this article contains suggestions for many

70 training and professional development opportunities. Writing well, with a focus on accessible  
71 language, is essential. But the work also requires holding multiple points of view in mind —  
72 including those of policymakers, other researchers, or even skeptics — and asking the questions  
73 those readers would want to ask, if they had access. At the same time, the inside view that PIOs  
74 often have suggests stories and framings that readers less familiar with the science might  
75 overlook. Perhaps the most important (and difficult) skill for a PIO is to think with “beginner’s  
76 mind” and ask questions that may seem foolish or obvious. Doing so often leads to the most  
77 interesting and accessible stories.

78 In every role, a PIO must have a good understanding of the process of science *and*  
79 communication. While deep knowledge of a discipline may get a foot in the door in some  
80 institutions, a PIO’s job is not to know the science. Rather, it is to recognize and tell good  
81 science stories, and know when a story, even if scientifically significant, may not merit a press  
82 release.

83 Training in science journalism can now be found in several excellent Master’s programs,  
84 but very few programs focus on the whole package of skills required to excel as a PIO. Instead,  
85 aspiring PIOs may need to cultivate message management, multimedia storytelling, and policy  
86 engagement skills by gleaning from more specialized opportunities in journalism, policy,  
87 marketing, and nonprofit management. Most professional PIO job opportunities will be  
88 advertised on higher education, science writing, and communications listservs, but job titles will  
89 vary; the titles communications officer, communications director, and media relations specialist  
90 are common synonyms for PIO.

91 To get their foot in the door, an aspiring PIO will need to provide samples of writing for  
92 non-specialists. University press offices and lab or departmental websites, and even student or

93 local news outlets offer good opportunities to gain experience. Some entities will have small  
94 budgets to support freelance work and internships. An equally important consideration is to find  
95 a good editor who likes to teach. Effective, external editing is a powerful route to enhancing  
96 writing skills.

97 Whether coming from science (as MD has), or from communications and education (as  
98 BGM did), being a PIO provides opportunities to stretch our brains around enormously  
99 challenging concepts and see the key click in the lock when we make them understandable to  
100 others. PIOs get to bring attention to science that is both delightful and important; to taste the  
101 best, most interesting moments of scientific discovery; and — every now and then — help  
102 connect communities.

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#### 104 **References**

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#### 110 **Figure Captions**

111 Figure 1. National Public Radio reporter Dan Charles interviews Harvard Forest LTER  
112 researcher Julian Hadley about his work measuring carbon sequestration in hemlock forests.

113 Credit: D. Foster

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#### 115 **Author Photos**

116 Bethann Garramon Merkle

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132 **Marty Downs** manages the Network Communications Office  
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141 **Dr. Annaliese Hettinger** works at the place where science, policy,  
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144 and science communication, writes about the intersection of human  
145 dimensions, conservation, and natural resource management, and  
146 creates multimedia products to bring scientific discoveries into  
147 decision-making arenas. She has served as a research scientist at Oregon State University and  
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